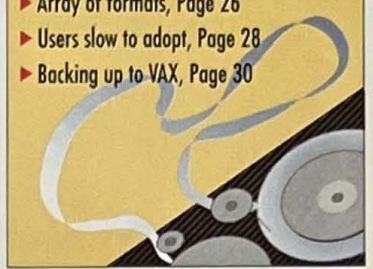


Window On Tape Backup

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Latest

PageMaker to get color extensions

Seattle — Aldus Corp. is expected to announce new color extensions for PageMaker that will give the popular page-layout program the ability to generate four-color separations, according to sources close to the Seattle-based developer.

At Seybold Seminars '89 next week in San Francisco, the company will also reportedly announce links between PageMaker and high-end color pre-press systems from Hell Graphics Systems Inc. and Crosfield Electronics. In addition, PageMaker has new type handling capabilities that allow it to import and maintain kerning pair

See PAGEMAKER, Page 8

Kinetics to give NeXT new Ethernet options

Hanover, West Germany — Kinetics Inc. of Walnut Creek, Calif., will introduce a card for the NeXT workstation that will give users the option of connecting directly to thick-wire or twisted-pair Ethernet networks. The Ethernet port built into the NeXT machine supports only thin-wire connections. Called the EtherPortNL, the Kinetics board will cost about \$500 and should ship in the third quarter. A Kinetics official also said the company's \$695 EtherPortII and EtherPortIII cards will be available immediately for the Mac IIcx. □

Copy protection off on LetraFont type

Paramus, N.J. — Pressure from users forced Letrafont USA last week to withdraw copy protection from its LetraFont Display Type collection.

The fonts, which are designed to work only with Letrafont's type manipulation program LetraStudio, were originally distributed with a maximum of four installs per font.

Letrafont will send a non-protected font disk containing the four LetraFont faces that come with LetraStudio to all registered owners. Owners of individual font disks can upgrade for free by sending the font disks to Letrafont's customer service department. □

All systems go for IIcx launch

Pricing puts Mac II future in doubt

By John Battelle and Renee Mathews

San Francisco — Apple's introduction of the three-slot, '030-based Mac IIcx and two large-screen monitors this week has set the industry abuzz with speculation over the fate of the Mac II and future standards for the Mac monitor market.

According to documents reviewed by MacWEEK, the IIcx will be priced at \$4,669 for a base model with 1 Mbyte of RAM and a 1.44-Mbyte floppy drive; \$5,369 for 1 Mbyte of RAM and an internal 40-Mbyte hard drive; and \$7,069 for 4 Mbytes of RAM and an internal 80-Mbyte drive.

Barring price changes on existing models, the introduction of the IIcx will leave Apple with three CPUs in the \$4,300 to \$4,900 price range (see chart at right).

Charles Wolf, an analyst at First Boston in New York, said the IIcx's introduction may signal an end to the '020-based Mac II. "This is bye-bye II, and it's time it went," said Wolf. "The IIcx is going to be a screamer for Apple in the corporate marketplace." Wolf predicted that the Mac IIcx will be the biggest sell-

er, in terms of revenues, in Apple's history.

Height and depth of the IIcx box are the same as the current Mac II

and IIx, but by reducing the number of slots and moving the power supply, Apple has shortened the IIcx's width to 11.87 inches. The internal 3.5-inch hard drive will sit above the floppy SuperDrive.

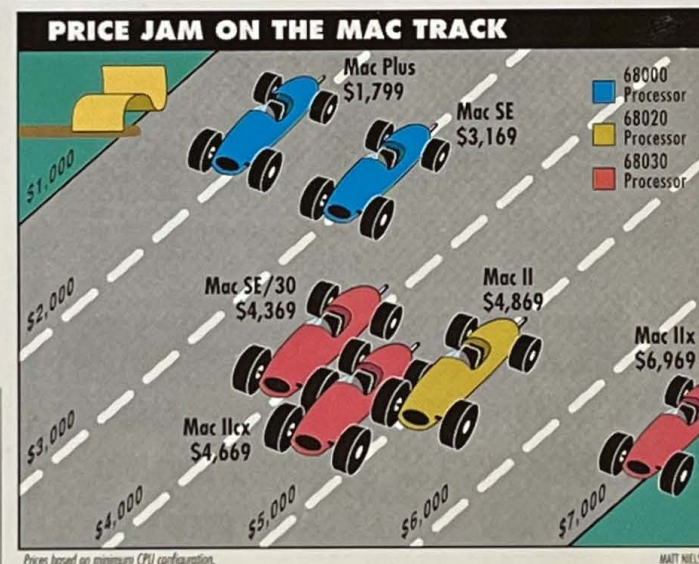
See IIcx, Page 9

Macintosh IIcx

1 Mbyte RAM \$4,669

1 Mbyte RAM, 40-Mbyte drive .. \$5,369

4 Mbytes RAM, 80-Mbyte drive .. \$7,069



Gestures recognizes handwriting

By John Battelle

Mountain View, Calif. — Promising easy integration of handwriting recognition into Mac applications, Evergreen Technologies last week introduced Gestures, a software-only solution that understands written characters and symbols created from any standard input device.

Through a process Evergreen calls "applied intelligence," Gestures can be trained by a user or developer to recognize any set of symbols.

Gestures, available as a set of software routines or as a HyperCard external command (XCMD), is targeted only at developers and OEMs, according to Eric Gould, the product's marketing agent. The software can be used with a mouse, tablet, trackball, touch screen or other input technology. The Gestures algorithms will also work on MS-DOS, Unix and Atari systems,

See GESTURES, Page 9

Putting the best interface on Unix

A/UX vies against many at UniForum

By Daniel Farber and Jon Swartz

San Francisco — In the eyes of the PC world, the Mac stands out as an oddball. But in the Unix market, it's just another pretty interface.

At the sixth annual UniForum show here last week, Apple was among the 225 vendors demonstrating Unix products to more than 22,000 people attending the three-day event.

► Apple demonstrated a still-beta Version 1.1 of A/UX. The update, giving Apple's Unix implementation the ability to run more Mac applications, is scheduled to ship this month, according to Glen Fiance, Apple's A/UX evangelist.

► Nearly two dozen applications,

including A/UX versions of Informix Software Inc.'s Wingz graphic spreadsheet and Microsoft's Word 4.0, were exhibited on the show floor. List SpA of Pisa, Italy, demonstrated Version 1.1 of Interface R, a Finder-like interface for A/UX.

Recently, some developers and users have called into question Apple's commitment to A/UX, given that Apple is retooling the Mac operating system to include many of the services that Unix offers, such as true multitasking and protected memory.

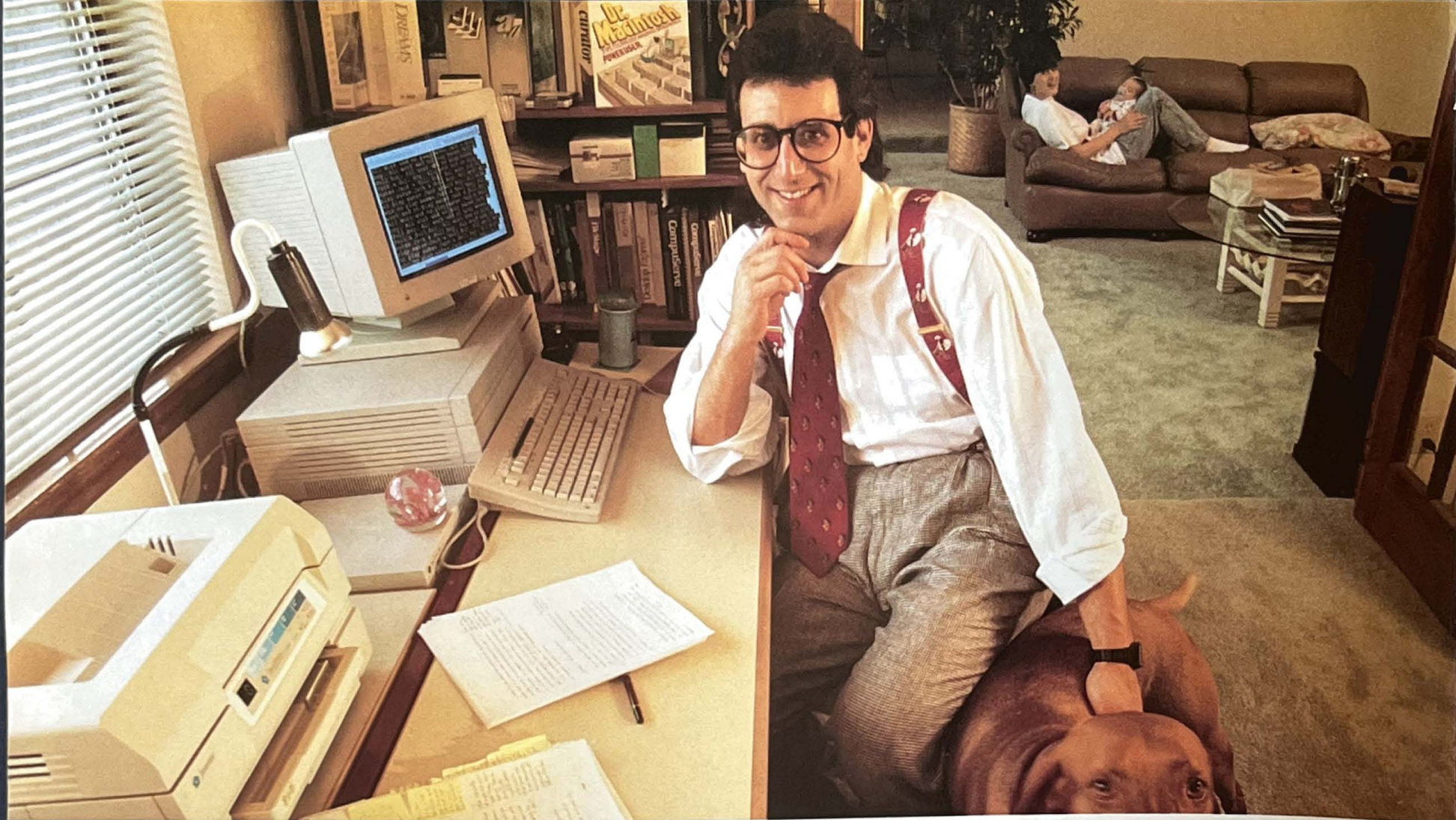
But according to

Jim Davis, a five-and-a-half-year Sun veteran and now Apple's director of system software, Apple is committed to A/UX for specific markets.

See A/UX, Page 8



Apple's Jim Davis: "There are 20-plus Unix interfaces today. To pick the right one is to pick a winning horse in a crowded field."



Bob LeVitus, former editor of MACazine, author of Dr. Macintosh: Tips, Techniques, and Advice for Mastering Your Macintosh

“The Jasmine DirectPrint is not as good as a laser printer. It’s better.”

“Ever since the day they came out, I’ve been using PostScript® laser printers. I edited a magazine that was desktop-published from cover to cover, so I lived and died by laser printers daily. Over the last three years, I’ve had experience with at least 15 or 20 different models. And the Jasmine DirectPrint™ is better than any of them.

“It’s the fastest, most capable, most reasonably-priced 300-dot printer I’ve ever seen. Text and graphics are clear, sharp, and vivid, and the black and gray tones are incredibly rich. And the amazing thing is, it’s not even a laser printer, but uses liquid crystal technology that requires fewer moving parts. So I expect to have fewer problems with it.

“I’ve been using this printer for proofing all of the drafts of my new book. I’ve thrown some pretty complex PostScript graphics at it, using programs like FreeHand™ and Illustrator88,™ and nothing I’ve created has slowed

it down in the least. There’s no question in my mind that the DirectPrint is as fast or faster than even Apple’s® fastest laser printer.

“Another thing I like about the DirectPrint is that it’s about half the size of any laser printer, and actually fits on my desk. And it’s only \$3495, so it fits within this freelance writer’s budget, too. In fact, if I make any more flattering statements about the DirectPrint, people will think I’m taking up a second career as an ad copywriter!”

 **Jasmine**
1-800-347-3228



The proof is in the printing.



Spectators and skiers at the World Alpine Ski Championships could use Info-on-the-Go's HyperCard-based menu on a touch screen to get information about restaurants, hotels and maps.

U.S. West's multimedia event unveils Info-on-the-Go kiosks

By Connie Guglielmo

Vail, Colo. — Skiers carving turns at the World Alpine Ski Championships here last month were on the cutting edge of more than just the ski slopes.

U.S. West Communications used the skiing event to unveil its Info-on-the-Go kiosks, Macintosh II-based information centers running multilingual, interactive multimedia presentations driven by HyperCard.

Seven kiosks, each equipped with a Mac II, Mass Microsystems' ColorSpace II video board, Mac'n' Touch touchscreen from Micro-Touch Systems, AppleCD SC CD-ROM player and a multisync monitor capable of displaying live video as well as Mac-generated graphics, were set up in Vail, Colo., and nearby Beaver Creek.

"We chose the Mac because of the development speed," said Dennis Horgan, project manager for the team at U.S. West's Optical Publishing Group, which was responsible for developing the software.

"I don't think we could have done the product in four months with MS-DOS. It couldn't have been done without the Mac," he said.

The kiosks contained information in three languages (English, French and German) about hotels, restaurants, shops, night life, special events and the race.

The kiosks were also equipped with printers for generating printed maps of user-selected areas and phones that automatically dialed hotels and restaurants.

Response to Info-on-the-Go has been positive, said Horgan, who added that U.S. West will continue to test market the information centers in Vail until April 15.

If the kiosks are deemed a success, U.S. West may market them to information-oriented businesses. "It's exciting that we've built one of the most advanced multimedia, user-interactive systems," Horgan said. "It's an integrated single unit that puts everything — CD-ROM images with video, text and graphics — on a single screen." □

Intel takes i860 RISC, enters market

San Francisco — Intel Corp. entered the fierce RISC microprocessor competition last week with a demonstration of the i860, an experimental chip that the company said is speedier than its competition and 30 times faster than its own 80386.

Running at 33 and 40 MHz, the 64-bit i860 can perform up to 40 million instructions per second.

The Santa Clara, Calif.-based company is entering the reduced instruction set computing (RISC) fray relatively late. MIPS Computer Systems, Motorola and Sun Microsystems are all scurrying to build a software base for chips already released.

"I think it's a little too late," said

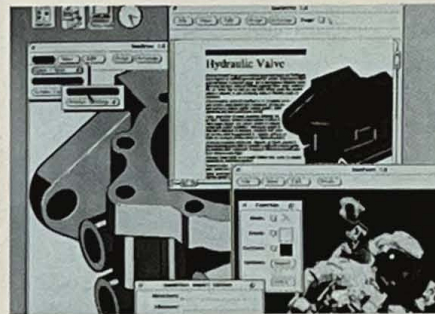
Michael Slater, publisher of the Microprocessor Report in Palo Alto, Calif. "Software developers are tired of porting software, and the i860 will be dwarfed when it arrives in machines next year."

Intel hopes to make up for lost time through agreements with significant players. IBM demonstrated an accessory circuit board that uses the i860 to supercharge the 3-D graphic capabilities of its PS/2 line of 80386 personal computers. Olivetti said it will use the i860 for a family of RISC-based products.

"For a narrow range — 3-D graphics and floating-point calculations — it's a great solution," Slater said. "I don't think it means much for the average user." □

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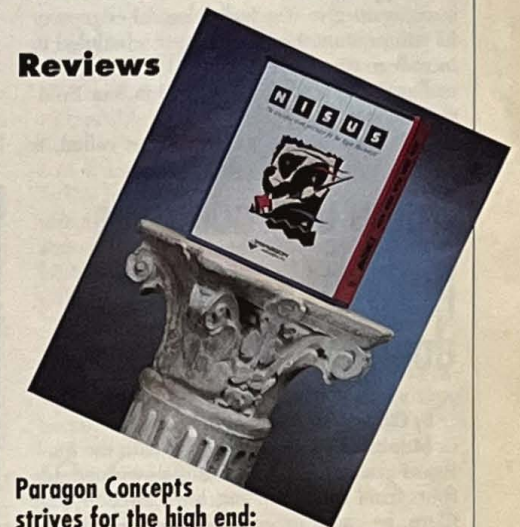
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New RIP to boost Lino speed

By Cliff Lehman

Hauppauge, N.Y. — In a move that may once again give it a technological edge over its competitors, Linotype Co. is scheduled to introduce a new version of its PostScript controller at Seybold Seminars '89 in San Francisco next week.

RIP 3, as the new controller is called, is

based on a Motorola 68030 chip and sports 8 Mbytes of RAM.

The speedy '030 chip and additional RAM will give RIP 3 an improvement of 30 percent to 40 percent in throughput speed, one company source said.

RIP 3 will be priced at approximately \$26,000, according to the source. The prod-

uct's predecessor, RIP 2, is based on the Motorola 68020 chip, comes with 6 Mbytes of RAM and costs \$26,000.

"This is probably the most direct step Lino could take to address its competitors," said David Cole, president of Studiotronics Inc., a computer publishing center in Winter Park, Fla. "Varityper has 8 Mbytes of memory [on its PostScript typesetter]. PostScript files are taking quantum leaps in memory requirements. With the most powerful RIP on the market, Lino should have no problem staying on top."

Although RIP 3 is based on an '030 chip, the controller uses the same Adobe Atlas PostScript interpreter found in the RIP 2 and PostScript interpreters from many other typesetter vendors.

Other features of the new controller include an Ethernet port and a 135-Mbyte hard disk. A processor caching scheme allows data to be spooled so that the RIP moves more efficiently to process new pages as others are imaged on the typesetter.

Linotype Co. is located at 425 Oser Ave., Hauppauge, N.Y. 11788; (516) 434-2000. □

Qume upgrade fixes problem in printing downloaded fonts

By Cliff Lehman

Milpitas, Calif. — Problems with the quality of printing when using downloadable fonts from Bitstream Inc. have forced Qume Corp. to come up with a firmware upgrade program for its CrystalPrint PostScript clone printer.

Although the 300-dpi printer produces its 35 resident typefaces (licensed from Bitstream) with no problem, fonts downloaded from Bitstream's MacFontware library do not achieve the same quality.

Qume is continuing to sell the CrystalPrint Publisher, priced at \$4,499, but with a warning to users that downloaded fonts will not achieve optimal results and directions to call a toll-free number to get information on the upgrade program, according to Michael Sugihara, vice president of product marketing at Qume.

"We are still testing the upgrade," Sugihara said. "The rest of the product was so clean, we really want this to be good."

Sugihara estimated that the new firmware will be available in April or May. CrystalPrint owners in metropolitan areas will probably be able to get a service call for the upgrade. Users in remote areas, however, will probably have to ship the machine back.

The upgrade will have "some sort of nominal charge," Sugihara said. Users will absorb the cost of shipping.

The problem with downloaded fonts has its roots in a series of miscommunications between Qume and Bitstream during the development of CrystalPrint, Sugihara said. "The MacFontware version we used was not compatible with the final version of MacFontware. The upgrade will bring our version up to the latest version of MacFontware," he said.

The MacFontware incompatibility also affects Qume's OEM customers, such as San Francisco-based Jasmine Technologies, which sells the printer under its own name as the DirectPrint LCS.

"We're looking at this as an enhancement upgrade," said Dennis Chang, president of Jasmine. "We won't charge for the upgrade. Qume might take a hit, we might take a hit, but we don't want users to take a hit. That's our policy."

Because the CrystalPrint Publisher and DirectPrint LCS use a PostScript clone interpreter rather than one from Adobe, the Mountain View, Calif., company's PostScript fonts do not work with the printers. PostScript outline fonts from other vendors do work, Sugihara said, but without the better print quality provided by the "hints" some vendors build into fonts for use on 300-dpi devices.

Qume Corp. is at 500 Yosemite Drive, Milpitas, Calif. 95035; (408) 942-4000. □



Networld show brings Mac-Novell products, complaints

By Emily Kay

Boston — Several new products that let Mac users take better advantage of Novell Inc.'s NetWare for the Macintosh/NetWare 2.15 network operating system were introduced at the Networld trade show here last week.

In addition to the TOPS-Novell alliance announced at the show (see Page 1):

► Action Technologies announced a limited mixed-net mail product.

► Cheyenne Software unveiled network backup software that will support Macs on the Novell network.

Several corporate users attending the show complained, however, that managing Mac-and-PC networks remains a challenge.

Action Technologies' MacAccess is an

electronic-messaging desk accessory that links Macs running off NetWare 2.15 servers to The Coordinator, the company's DOS-based work-management and communications software.

Customer demand drove Action into the Macintosh market, said company President Tom White, who termed MacAccess an interim solution pending release of a full

Coordinator product for the Mac by 1990. MacAccess allows users to exchange mail but does not support all of Coordinator's management features, he said.

MacAccess will ship by the end of June for \$345 for five users.

Cheyenne's NetBack 2.0 is a LAN backup program designed to allow network administrators to restore crashed servers quickly. To back up Mac files to the server, however, NetBack must convert them to DOS format.

Available now, NetBack retails for \$245. Current users can upgrade at a "nominal" cost, a company representative said.

The inability of Macs to back up their files directly to a NetWare server is a serious gap, according to systems designer Steven Linowes of Martin Marietta Data Systems in Greenbelt, Md.

Software to solve the problem should be available by the end of the year, said Michael Harris, director of product marketing for Emerald Systems, a San Diego tape backup hardware and software vendor.

"Everyone keeps telling me 'the end of the year,'" said an MIS manager at a major Fortune 500 company in New York, who asked to remain anonymous. "I want answers today."

"I see the light at the end of the tunnel [for Mac connectivity]," he said, "but I don't know how long the tunnel is."

Chris Gladwin of Martin Marietta's national LAN product center in Greenbelt said Macintosh networks lack satisfactory network-management tools. Gladwin works in an environment where several hundred PCs and Macs are sometimes on the same network. "I have Macintosh and PC networks and I can only manage the PC side," he said.

Action Technologies is located at 2200 Powell St., 11th Floor, Emeryville, Calif. 94608; (415) 654-4444. Cheyenne Software is located at 55 Bryant Ave., Roslyn, N.Y. 11576; (516) 484-5110. □

Aside from being a tad easier to install than a satellite, the Hayes Smartmodem 2400M™ for the Macintosh® II and Smartcom II® for the Apple® Macintosh make up the most advanced communications system you can put inside a Mac®.

With this modem and software package, you can set up an extensive Macintosh work group system through a feature called HayesConnect™.

HayesConnect™ allows any Mac access to the Smartmodem 2400M across an AppleTalk® Network.

Which means all Macintosh computers on the Network will be able to communicate with or without a modem of their own. This makes for extremely efficient office communications.

THE ONLY COMMUNICATIONS SYSTEM MORE ADVANCED THAN OURS WON'T FIT INSIDE YOUR MAC.

To make them even more efficient, the system offers Smartcom II for the Macintosh. It's the only software designed to take full advantage of the power and graphics capabilities of all of the computers in the Macintosh family. For example, you can program your own on-screen buttons to create a personalized user interface. You also get features like moveable icons, custom color selection and full support of ImageWriter® and LaserWriter® for incredible graphics. You can even run the system unattended using an Autopilot feature. Of course, there is much more you can do with a few simple clicks on standard, easily identifiable icons.

By now it's probably clear that whether they're just used with the Macintosh II or shared by Mac computers on an AppleTalk Network, the Smartmodem 2400M and Smartcom II make a communications system that can't be beaten. At least not by anything on this planet.

Hayes.

For your nearest Hayes Advanced Systems Dealer, call 800-635-1225. Hayes Microcomputer Products, Inc., PO. Box 105203, Atlanta, GA 30348. Apple, Macintosh, Mac, ImageWriter, LaserWriter and AppleTalk are registered trademarks of Apple Computer, Inc. © 1989 Hayes Microcomputer Products, Inc.

Ven-Tel plans 2,400-bps modem for the Mac

By Emily Brower

San Jose, Calif. — Ven-Tel has announced a 2,400-bps modem for the Macintosh II, even though Apple has yet to release standards for addressing the internal serial port.

The Ven-Tel Mac2400E will support the XPC and MNP levels 2, 3 and 4 error-correction protocols. It also supports MNP Level 5, which provides automatic data compression, allowing throughput up to 4,800 bps. The NuBus card is slated to ship in the next month for \$449.

Last August, Apple announced the Communications Tool Box, a set of developers' tools intended to standardize communications on the Mac. The toolbox software, which has yet to be released, includes a standard scheme for addressing the internal serial port in the Mac II.

Although the toolbox remains unavailable, several modem manufacturers, including Ven-Tel, Hayes Microcomputer Products and Epic Technologies, have written their own drivers to address the internal serial port. "Addressing it is not as difficult as we originally thought," said Tim Caballes, product manager for Ven-Tel.

The Mac2400E is "closely compatible with Apple's toolbox," Caballes said.

Ven-Tel Inc. is located at 2121 Zanker Road, San Jose, Calif. 95131-2177; (408) 436-7400 or (800) 538-5121. □

Sun unveils Write, Paint and Draw

First programs for Open Look

By Jon Swartz

San Francisco — Sun Microsystems Inc. announced the first set of desktop applications for the Open Look Unix user interface at the Uni-Forum '89 conference here last week. Sun also took the occasion to unveil a clone strategy that it hopes will distinguish Open Look from the profusion of competing graphical interfaces for the Unix environment.

The three productivity products, which are based on core technology developed by Island Graphics Corp. of San Rafael, Calif., feature menus, pop-up windows and point-and-click mouse controls. They are:

► SunWrite, a \$695 multifont text processing and page-layout program.

► SunPaint, a \$495 bit-map paint program.

► SunDraw, a \$495 vector- and object-oriented drawing program.

The three packages can be purchased together for \$995 and are available immediately.

"I'm tired of going to our user sites and seeing a Macintosh or other CPU next to each Sun computer so users can perform desktop productivity tasks," said Sun CEO Scott McNealy in introducing the

three desktop applications.

Carl Wolf, vice president of Sun's software products division, said third-party vendors are currently developing bridges between the new applications and Mac programs such as MacWrite, Word and WordPerfect.

For Apple aficionados, however, the announcement recalled Apple's 1983 debut of the Lisa and its suite of multitasking window-based productivity applications.

"It's like the Lisa announcement all over again," said Jim Davis, a former Sun executive who recently joined Apple as director of system software.

Sun's new environment, Open Windows, is based on the Open Look interface developed by Sun

and AT&T. It is designed to run on Sun's high-end workstations.

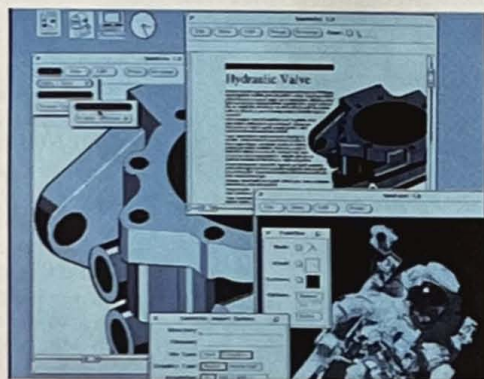
McNealy said, however, that Sun is wholeheartedly encouraging the "cloning" of Open Windows so that "anyone and everyone can take advantage of an open, mature, available interface." Several Japanese companies are developing a Kanji version of Open Windows, he said.

In a move to boost the clone market, Sun has inked agreements with Phoenix Technologies of Norwood, Mass., and Interactive Systems Corp. of Santa Monica, Calif., that allow them to license Sun operating system software to other hardware manufacturers.

"[Open Look] is not a second-rate clone [of Presentation Manager]," said Bill Joy, vice president of

R&D at Sun. "One of our goals is to make available a truly open windowing solution to everyone."

According to Eric Schmidt, vice president of Sun's general systems group, final specifications of Open Look are a month away. He said that developers' tool kits would be available in May. □



Sun introduced SunWrite, SunPaint and SunDraw last week.

Interfaces cluttering desktops

Mountain View, Calif. — Sun Microsystems is making an aggressive push to gain widespread acceptance for its Open Look user interface, but industry observers say the company faces an uphill struggle.

Open Look must compete not only with the Mac interface, but also with IBM's Presentation Manager, DEC's DECwindows, NeXT's NextStep and OSF/Motif, an X Window-based fusion of technologies from DEC, Hewlett-Packard and Microsoft, endorsed last month by the Open Software Foundation.

Yet another interface, designed specifically for computers running Intel's 80386, also made its appearance at Uni-Forum. Called Open Desktop, this latest entrant was designed by The Santa Cruz Operation, a leading Unix developer, with support from DEC, Locus Computing Corp. and Relational Technologies Inc.

Open Desktop will allow users to run MS-DOS as well as Unix applications. Tandy said it will carry the \$995 product in its retail outlets when it becomes available in September.

"It's a marathon race, but a company like Apple already has a five-mile lead over Sun," said Brian Boyle, director of research at Novon Research Group, a Berkeley, Calif., market research company. "Apple has the third-party applications and the established interface." — By Jon Swartz

For the record

The Page 1 infographic, "Laptop's two faces," Feb. 28, mistakenly referred to an "active matrix battery" instead of an "active matrix display."

In "Newspapers eye complete desktop systems" in GA, Michael Balter's name was misspelled.

The Feb. 28 Tri-Data story incorrectly stated the speed of the Sun SPARC chip that powers the Netway 2000. The chip can process 10 Mips, or 10 million instructions per second.

The headline on the Feb. 28 Menlo Business Systems story on Page 18 gave an incorrect version number for the MacMenlo upgrade. The correct version number for the updated Tandem terminal-emulation software is Version 3.8. The caption for that story was also incorrect. Because the previous version of MacMenlo did not work with 68000-based machines, Continuing Education of the Bar in Berkeley, Calif., needs the update to work with its Mac IIs.

Hitching Bright Star to the SuperCard wagon

SuperCard-based programs debut

By Connie Guglielmo

Bellevue, Wash. — Lured by the color capabilities of SuperCard, Bright Star Technology last week became the first Mac developer to announce new programs using Silicon Beach Software's HyperCard-inspired authoring program.

SuperAnimator, a more powerful, eight-bit color version of Bright Star's HyperAnimator animation

development program, is currently available to the company's licensed developers. An end-user version, tentatively priced at \$699, will be released in August, said William Correll, the company's senior vice president.

Correll also said that HyperMail, a mail program that features talking heads that recite electronic-mail messages, is also being developed using SuperCard. Slated to ship in late May or early June, HyperMail will be priced at \$149 for 10 computers.

"SuperCard does not require as

much RAM as HyperCard, therefore HyperMail will be able to run under MultiFinder," Correll said.

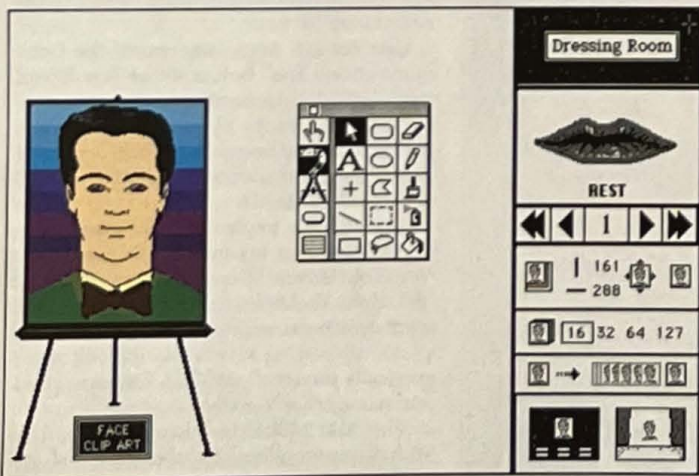
Like HyperAnimator, SuperAnimator lets Mac users create lip-synching talking "actors." Each actor can have up to 127 facial expressions, nearly eight times the number of facial expressions available using HyperAnimator and HyperCard.

SuperCard also makes it possible to create characters using SuperCard's 256-color palette, Correll said. "We're using SuperCard primarily because it has color and HyperCard does not."

Does this mean that Albert, the most famous HyperAnimator character of all, will be colorized? Jay Johnson, co-founder of Los Angeles-based HyperCard developer StakDek, said he and his partner, actor Harry Anderson, have no immediate plans to create a Ted Turner rendition of Albert, Anderson's electronic sidekick in the TV series, "The Absent Minded Professor."

"Albert will continue to be generated using a Macintosh SE," Johnson said, adding that future characters may be created in color using SuperAnimator on the Mac II. "Color is very important and something that we're interested in."

Bright Star Technology Inc. is located at 14450 N.E. 29th Place, Suite 220, Bellevue, Wash. 98007; (206) 885-5446. □



Jonathan (above), Bright Star's version of Knowledge Navigator's Phil, can now appear in color thanks to Bright Star's SuperCard-based SuperAnimator animation development program.

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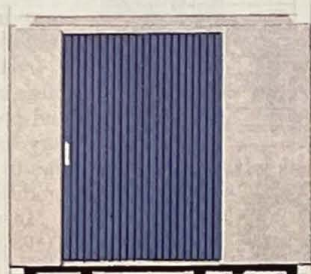
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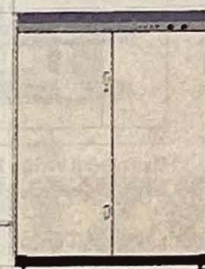
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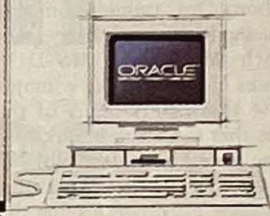
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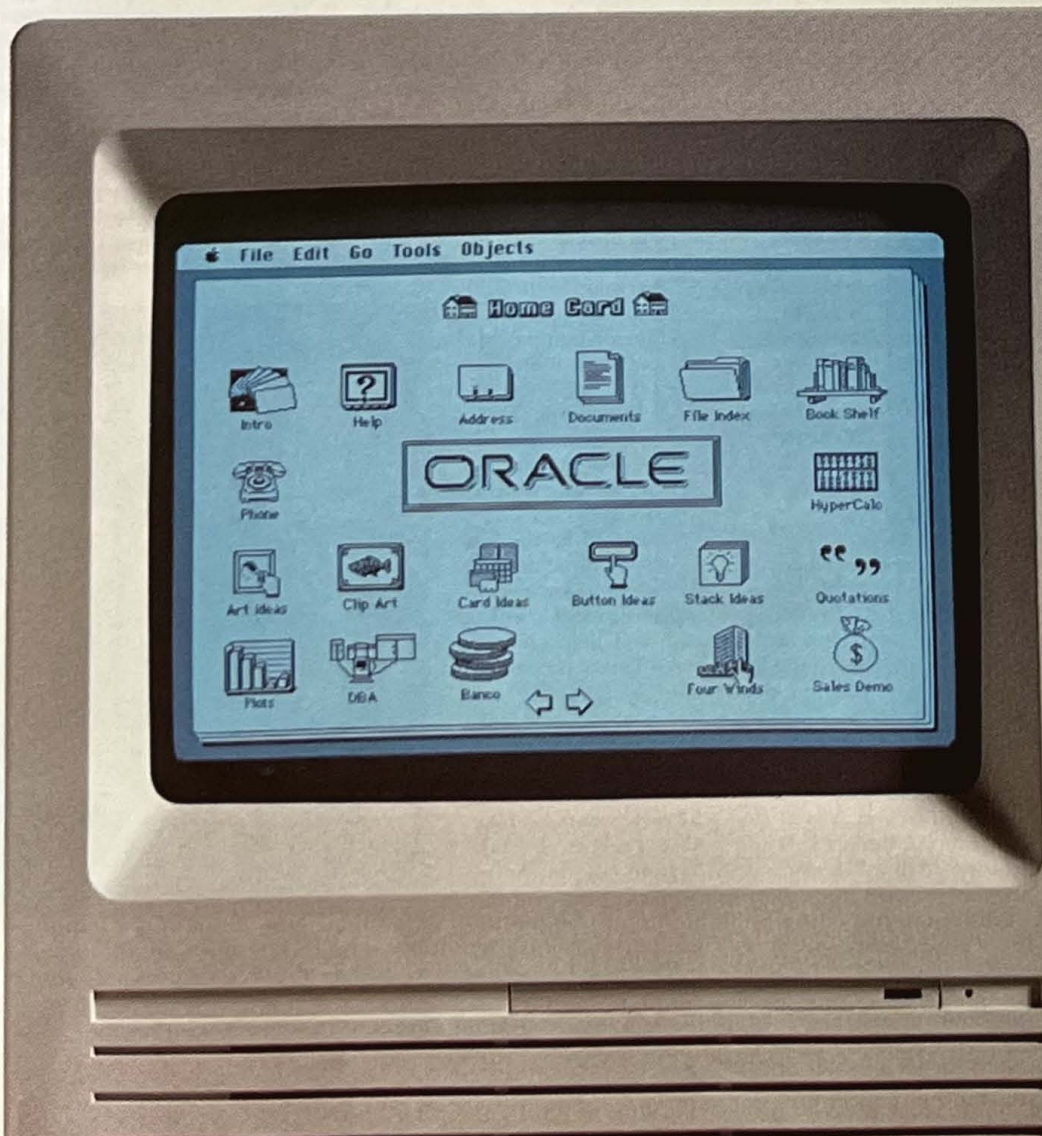
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TRBA



Gestures

Continued from Page 1

but the product is being introduced on the Mac platform.

"We are introducing Gestures first in the Mac market because we think it is ready to accept this kind of technology," said Jeffrey Siegel, the product's author. At Macworld Expo in San Francisco earlier this year, Jean-Louis Gassée, president of Apple Products, proclaimed, "Handwriting recognition will be one of the great fundamental advances in personal computing."

Gestures operates by tracking motions from the input device and comparing the geometry, direction and speed of the strokes to a dictionary of symbols. Dictionaries are available for the Roman alphabet, Kanji, and music and editing symbols, but Evergreen will provide developers with any dictionary they require, Gould said.

Evergreen is positioning Gestures for the forms and database markets, Gould said. Noting research that shows forms can almost always be filled out faster manually than from a keyboard, Gould suggested that, in

the future, applicants for driver's licenses, for instance, might enter biographical data directly into a database by writing on a tablet and overlay built into an office counter.

Gestures is ready now for licensing, according to Gould. He said that Evergreen has signed at least one deal to include Gestures technology in an existing application, but he declined to provide further details.

Gestures, which uses a sparse 30 Kbytes to 40 Kbytes of code, could also be used as a macro facility, Siegel said. A simple check mark made with a stylus, for example, could

replace a Print or Save command.

Gestures is not the first handwriting recognition solution for the Mac. In December 1987 Personal Writer Inc. introduced the Personal Writer line, a hardware and software solution. Personal Writer is also working with OEMs and developers, according to Paul Bloch, vice president of marketing and sales at Personal Writer.

Evergreen Technologies can be reached through IDEation Strategies, 1983 San Luis Ave., Suite 13, Mountain View, Calif. 94043; (415) 968-8888. □

IIx

Continued from Page 1

A scaled-down version of the '030-based Mac IIx, the IIx will also include a SIMM (single in-line memory module) slot for ROM upgrades. The new model will have a programmer's switch and two LEDs, for power and disk-activity, on the front of the box.

By moving the IIx's plastic feet from the bottom to slots on the left, users can easily convert it to a vertical configuration.

Apple will also introduce a 160-Mbyte internal hard drive for the Mac II and IIx, which should be available next month at about \$2,600. An external model is due later this spring.

The 15- and 21-inch monitors that Apple will introduce this week will work across the Mac II line, sources said. Users can choose between two gray-scale display cards. The cards can be configured with four or 16 levels of gray. Apple will also be selling the monitors separately, leaving an opening for third-party cards. A one-bit monochrome card, known before the introduction as "Bob the Card," will also debut. It will be priced around \$200 and should be available in April, sources said.

The 15-inch monitor Apple is introducing, the Macintosh Portrait Display Monitor, can be coupled with a two-bit board at a price of \$1,600, or expanded to four bits (16 levels of gray) for around \$1,900. The Apple Two-Page Display, the 21-inch monitor, will cost \$2,600 for two-bit display and \$2,700 to \$2,900 for four-bit display, sources said. The two-page display will be released this month, but the portrait monitor will not be available until late spring.

Analysts and corporate buyers agreed that with the more powerful IIx moving into place in the Mac lineup, the future of the Mac II looks grim. Reports circulated late last year that Apple planned to kill the Mac II upon introduction of the three-slot model but the company now appears to be letting the machine die of natural causes.

Tim Bjarin, executive vice president of Creative Strategies Research International, a Santa Clara, Calif.-based market research company, said he expects the '020-based current mode to "fall by the wayside" in favor of the '030-based IIx, IIx and SE/30.

Monitor vendors were cautious about the effect Apple's introductions will have on their market. "You can't judge what Apple will do. It has confused the marketplace more than once," said an official of one major monitor maker, who asked not to be identified.

Industry observers said Apple's new monitors will legitimize the large-screen monitor market. "The single-page [15-inch] display will become the standard for the modular Macs," said James Cavuoto, editor of microPublishing report in Torrance, Calif. "The market for third-party monitors will grow; vendors should be happy. But why bother with only four or 16 shades of gray? Serious users need 256." □

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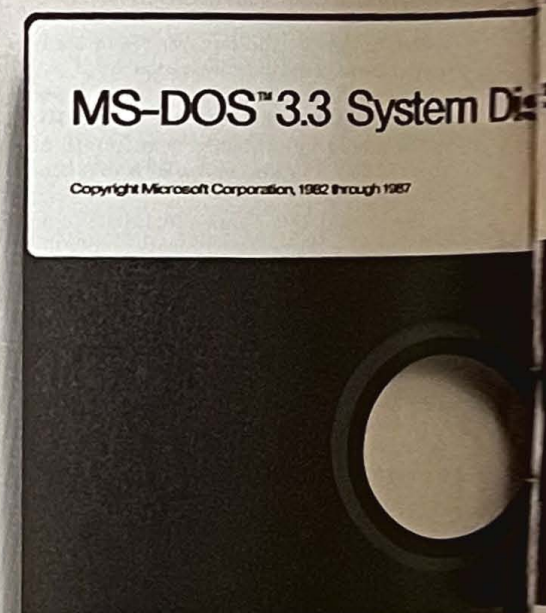
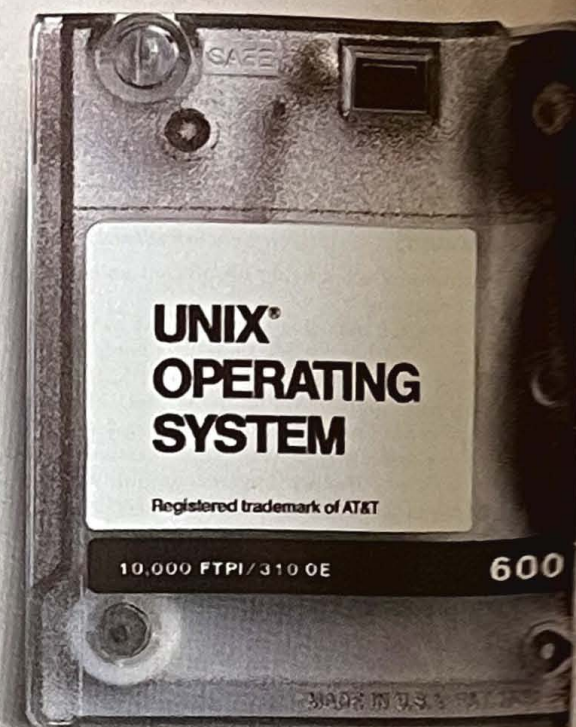
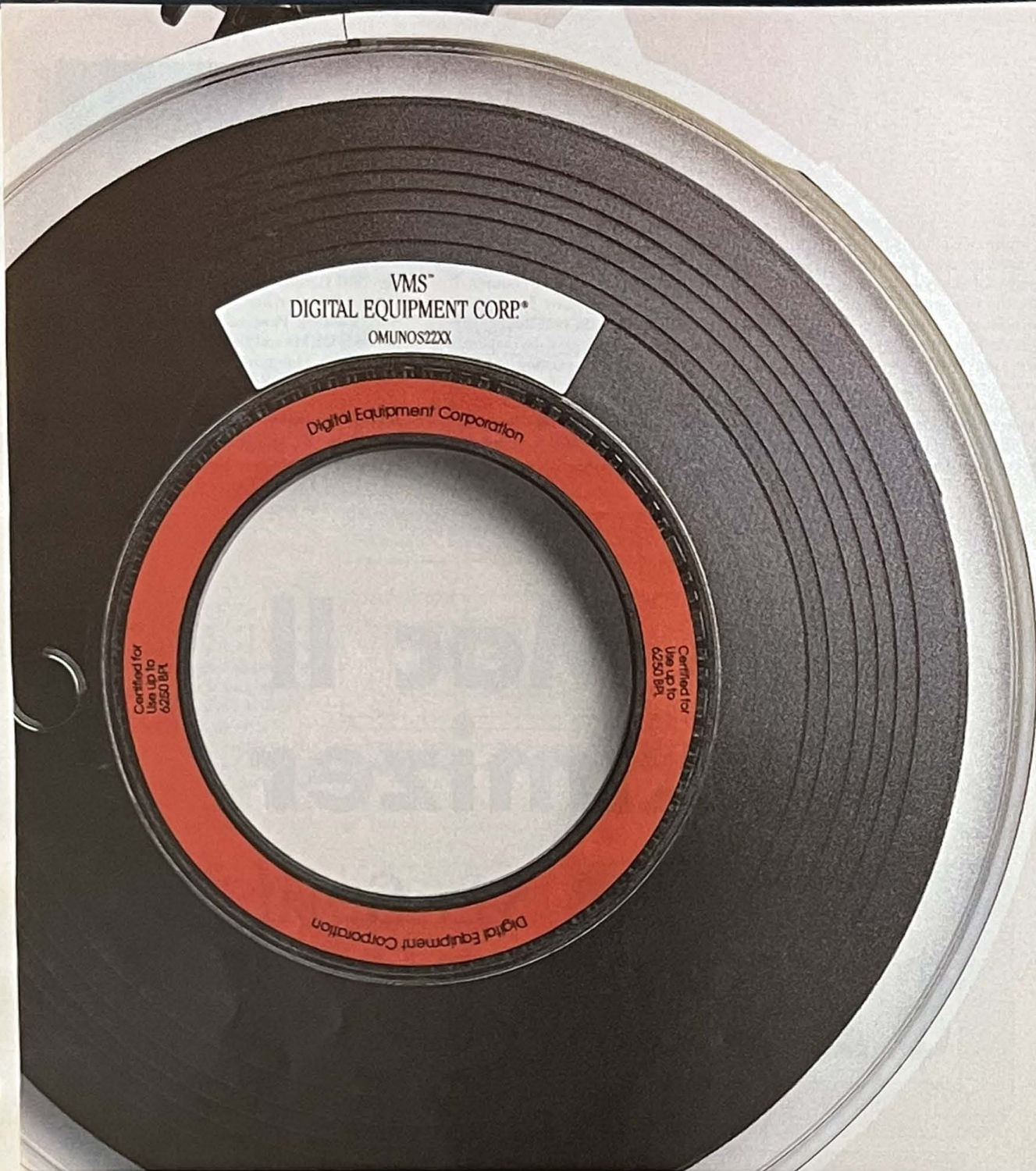
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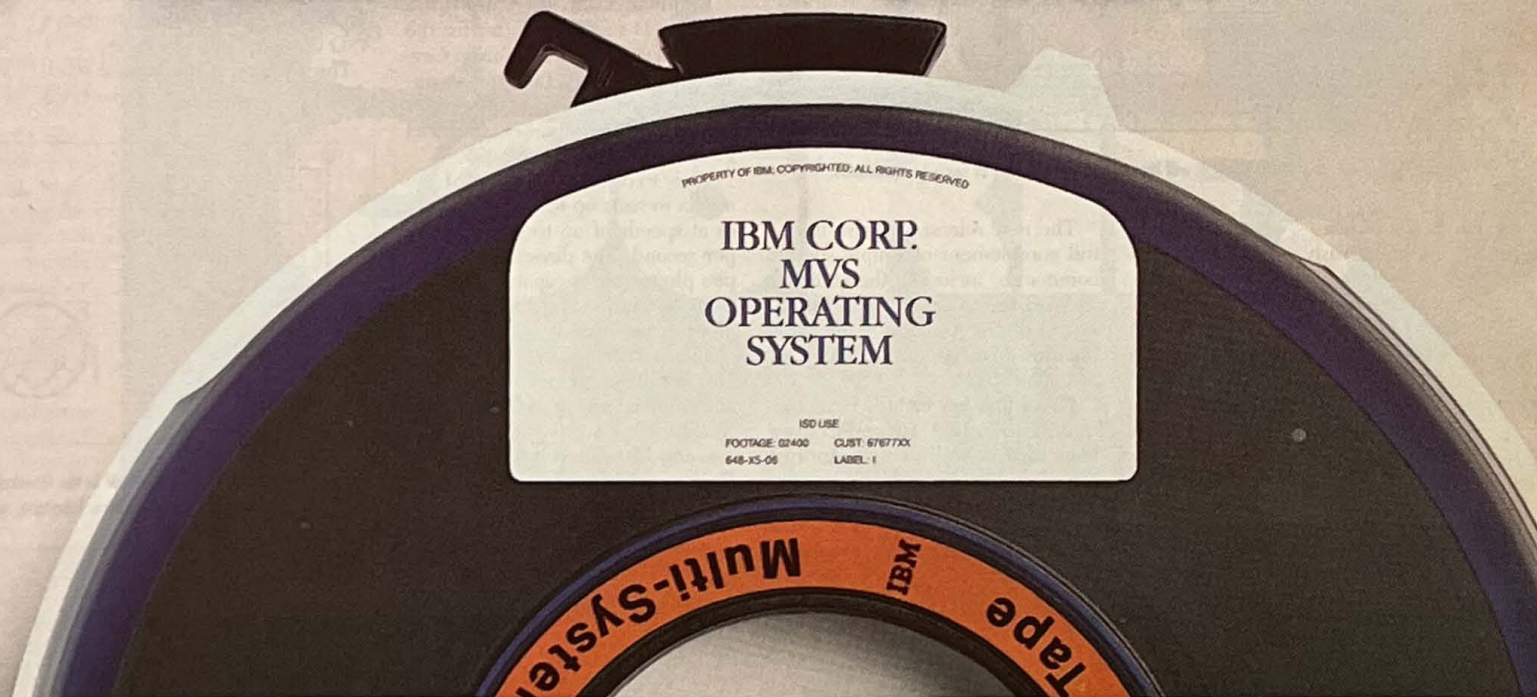
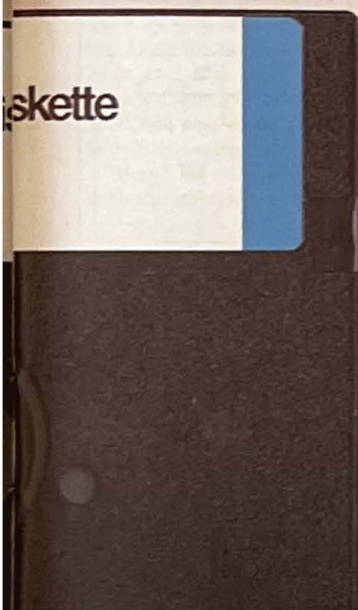
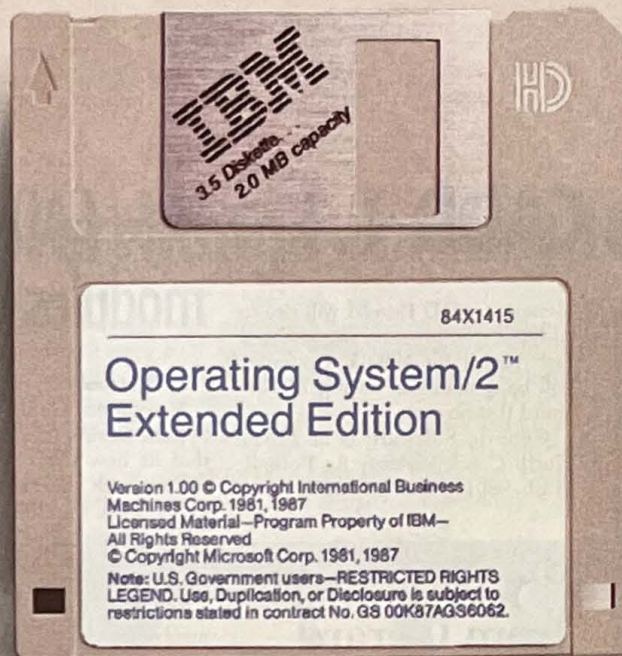
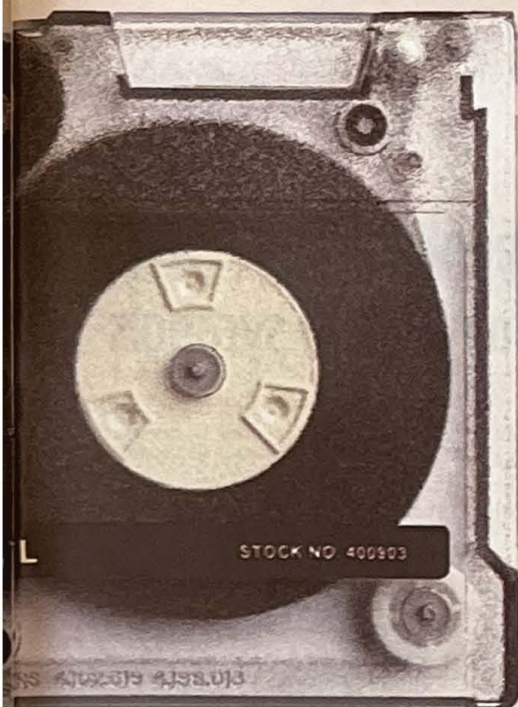
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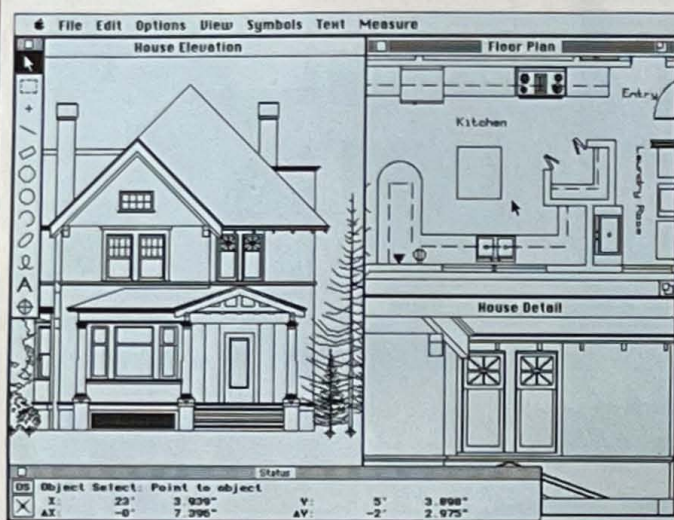
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Higher price on Generic CADD 1.1



Version 1.1 of Generic CADD Level 1 will have a full complement of snap-to commands.

By Cliff Lehman

Bothell, Wash. — Generic Software Inc. plans to ship an upgrade to its Generic CADD Level 1 for the Mac program this week, but the low-cost CAD package will also get a 50 percent price increase.

Version 1.1 will add new file-format options, including a PC/Mac translator and the ability to save and open PICT and Encapsulated PostScript format files directly.

The new release will also have a full complement of simple snap-to commands, including the ability to snap to the midpoint of a line or arc; to the intersection of any combination of lines, circles and arcs; or to any object.

Other features include new commands to select all and redraw backward as well as new drawing tools for arcs and circles.

With the upgrade, the price for

Generic CADD Level 1 will rise to \$149.95. The program was released last August for \$99.95. Upgrades will be available to owners of Version 1.0 at no cost.

Generic Software is at 11911 North Creek Parkway S., Bothell, Wash. 98011; (206) 487-2233. □

\$2,395 plotter from Gerard

Fremont, Calif. — A new ultra low-cost D-size pen plotter for the Mac will ship this month from Gerard Research Inc. Targeted at single users and small engineering or architectural companies, the GRI ProPlotter is priced at \$2,395.

The ProPlotter can plot on media in sizes up to 24 by 36 inches at speeds of up to seven inches per second. The device is a single-pen plotter but is capable of multi-color output by changing pens and plotting one layer at a time.

The plotter is compatible with Houston Instruments DMP plotters and command sets as well as IBM PC XT and AT personal computers.

Gerard Research Inc. is at 46745 Fremont Blvd., Fremont, Calif. 94538; (415) 651-0217. □

New CAD symbol library to ship; modules contain 2,400 symbols

By Cliff Lehman

Evergreen, Colo. — Advanced System Design Inc. has announced that its new CAD symbol library for use with ClarisCAD and MacDraw II will ship this month.

ASD Professional CAD Symbol Library 2.0, which was developed using ClarisCAD, is a collection of more than 2,400 architectural, mechanical, electrical and electronic symbols grouped in modules according to use. The new \$119.95 library is based on the company's ASD Cabinet Symbol Library.

The General Architectural module of the new library contains

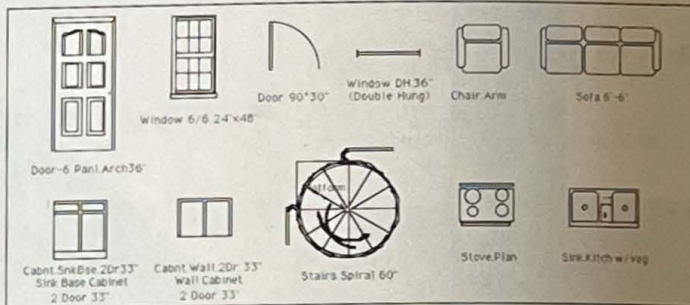
symbols for doors, windows, appliances, fixtures, as well as electrical, landscape and site plan symbols.

The Hardware Store module contains machine and cap screws, nuts, washers and other symbols.

A general Electronics Shack module includes a variety of electronic design and printed circuit board aids.

Professional CAD conforms to American National Standards Institute and other standards.

Advanced System Design Inc. is located at 1010 Stagecoach Blvd., Evergreen, Colo. 80439; (303) 674-2222. □



Some of the 2,400 symbols available in the General Architectural module of ASD Professional CAD Symbol Library 2.0 includes doors, furniture, windows and appliances.

MacInTouch RICK LEPAGE AND RIC FORD

New virus detective hits the street

BUGS & TIPS

New detective in. The new version of Jeff Shulman's shareware VirusDetective has been released through on-line services and users groups. Version 2.1.1 adds new searching features and includes a test for the recent ANTI virus. It remains one of the fastest, most flexible anti-virus tools available, and it's a bargain at the \$20 shareware fee. A license with a disk containing the latest version is \$25.

Configuration envy. Apple supplies scattered information about your Mac configuration in the About the Finder and Get Info menus and through the network management programs Responder and InterPoll. But these mechanisms are incomplete and insufficient for someone supporting multiple, dynamically changing systems.

Over the years, programmers have written little utilities such as Describe, SysVers and Joel McNamara's Mac ID that attempt to obtain and show hidden configuration details of the Mac, but none of the solutions we have seen so far has been as good or as complete

as a new one called MacEnvy.

Ken McLeod's MacEnvy is a nicely designed Control Panel device (cdev) that lists both hardware and software information. On the hardware side, it shows the type of Mac, type of processors (CPU, math coprocessor and memory management unit), screen size, graphics (color QuickDraw or not), keyboard type, disk information, PRAM (parameter RAM) version and size, and ROM version.

When you choose the software button, MacEnvy shows System and Finder versions, MultiFinder status (in use or not), more disk information, user name and printer choice, and the version of AppleTalk currently in use.

MacEnvy correctly specified SE/30, IIx and Mac II (with paged-memory management unit, or PMMU) systems. The only problem we had with it was an incorrect identification of processors in a Mac SE that had a Gemini '030 accelerator from TSI installed.

McLeod is giving the program away free, and it is available from on-line services and users groups.

Acta Advantage bug fix. Bugs and an incompatibility with

Berkeley Systems Design's Stepping Out II have caused Symmetry Corp. to release a new version of Acta Advantage and its accompanying Acta DA. In addition to the Stepping Out glitch, problems occur when printing files that contain lengthy, multiple-line topics and when using the DA's Type menu item in a new document.

Version 1.0.1 of Acta Advantage and Version 3.0.1 of the Acta DA are available free to registered users. To receive the update, you must call the company's toll-free support line, as Symmetry is not automatically sending the update.

DiskFit fixes. Russ Shipp of New York's LaserBoard BBS came up with a patch for SuperMac Software's DiskFit that prevents backing up of disk partitions created by ALSoft's MultiDisk. Without the patch, MultiDisk partitions become part of a DiskFit backup set, inflating the size and time taken up during a backup.

Shipp's patch is in the form of a TeachText document that contains an updated version of DiskFit's PAR# "Never Backup" resource. Using Apple's ResEdit, all you have to do is paste Shipp's version of the

resource into a copy of DiskFit, replacing the old version of the resource. If you cannot get the patch but want to try it yourself, open the PAR# ID = 130 resource and place your cursor at the end of the text. Type "MVolMDsk" and close the resource, saving changes when prompted by ResEdit.

The patch is intended for Version 1.5 of DiskFit, but we successfully used it with DiskFit 1.4 as well. An added advantage of the fix for Version 1.4 users is that it also contains a fix for Symantec's HD Partition. The StuffIt file that contains the patch and instructions on its use can be found on MacNET.

TMON update. ICOM Simulations called us about an incompatibility between the TMON debugger and 68030-based Macs like the IIx and SE/30, which bomb when either the TMON application or its INIT is run. Eugene Evans at ICOM explained how to remedy the problem with ResEdit.

Use ResEdit to open up a copy of the TMON application. Open the MonC resource and click on the "MonC ID 2" resource. Choose Duplicate from the Edit menu to make a copy of the resource. This

copy will have a random ID number, so select the new resource and renumber it to ID 3 with the Edit menu's Get Info command. Close the MonC resources and perform the same procedure with the "MonID 2" resource.

This patch will only work with Version 2.8.1 of TMON. Users with earlier versions should call the company and ask for the TMON 2.8.2 upgrade.

REFERENCES

Jeffrey S. Shulman, P.O. Box 521, Ridgefield, Conn. 06877-0521. ICOM Simulations Inc., 648 S. Wheeling Road, Wheeling, Ill. 60090; (312) 520-4440.

Symmetry Corp., 761 E. University Drive, Mesa, Ariz. 85203; (602) 844-2199; (800) 624-2485.

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Electronic data interchange coming to Mac

By Jiri Weiss

Winston-Salem, N.C. — Corporations bent on reducing paperwork costs by doing business with their suppliers electronically will soon have access to a standard file format from their Macs.

Piedmont Systems Inc. plans to open up the world of electronic data interchange to the Macintosh with a translation utility tentatively named Mac-EDI. The American National Standards Institute standard EDI format allows applications running on different machines to automatically exchange data found in such business documents as purchase orders, requests for quotation, quotes, invoices and bills of lading.

The program, due late in the second quarter, will translate documents back and forth between the EDI standard and file formats used by common applications like ACIUS' 4th Dimension, Fox Software's FoxBASE+ for Mac and Microsoft Excel, according to Chuck Cloer, president of Piedmont. Mac-EDI will also include tools for adapting the translation software to other file formats.

Mac-EDI will allow suppliers to comply with the requirements of a growing number of businesses that have adopted EDI for electronic transactions, Cloer said. Companies using the format include General Motors, Sears, IBM, RCA and Apple.

"The Mac solution gives a small customer the same advantages as a large supplier," said Ron Eversole, corporate EDI director at Apple.

For large corporations, the Macintosh-

based EDI solution will provide a good way to find out what EDI feels like without time-consuming and costly changes to mainframe databases, Eversole said. "It only takes one or two days to implement a desktop solution."

The advantage of using EDI over sending documents via fax or electronic mail is that

an EDI file need not be manipulated or rekeyed, eliminating a major and costly source of human error.

Mac-EDI is tentatively priced between \$1,500 and \$1,800, making it the least expensive EDI software available on any platform, Cloer said. Piedmont already offers an IBM PC version priced at \$2,495.

The EDI documents themselves can be received either through a direct link such as a modem or from a special EDI mailbox service now available from network service companies like McDonnell Douglas' EDI-Net, GE Information Services Co., Western Union and CompuServe, Cloer said.

Companies interested in implementing EDI on the Mac can call Apple at (408) 974-7248, Eversole said.

Piedmont Systems Inc. is located at 4400 Silas Creek Parkway, Suite 300, Winston-Salem, N.C. 27104; (919) 760-3620. □

EDI saves on paperwork

RCA recently estimated that each purchase order it processes costs approximately \$50 to complete, but that EDI reduces the cost to about \$4, according to James Senn, a corporate consultant and researcher for the Information Technology Management Center at Georgia State University.

"The advantages of using EDI are enormous," said Senn. IBM, which uses EDI for its plants worldwide, estimates savings of \$60 million over five years. A study by Arthur D. Little predicts that the grocery industry could save as much as \$300 million per year if it adopted the standard, according to Senn.

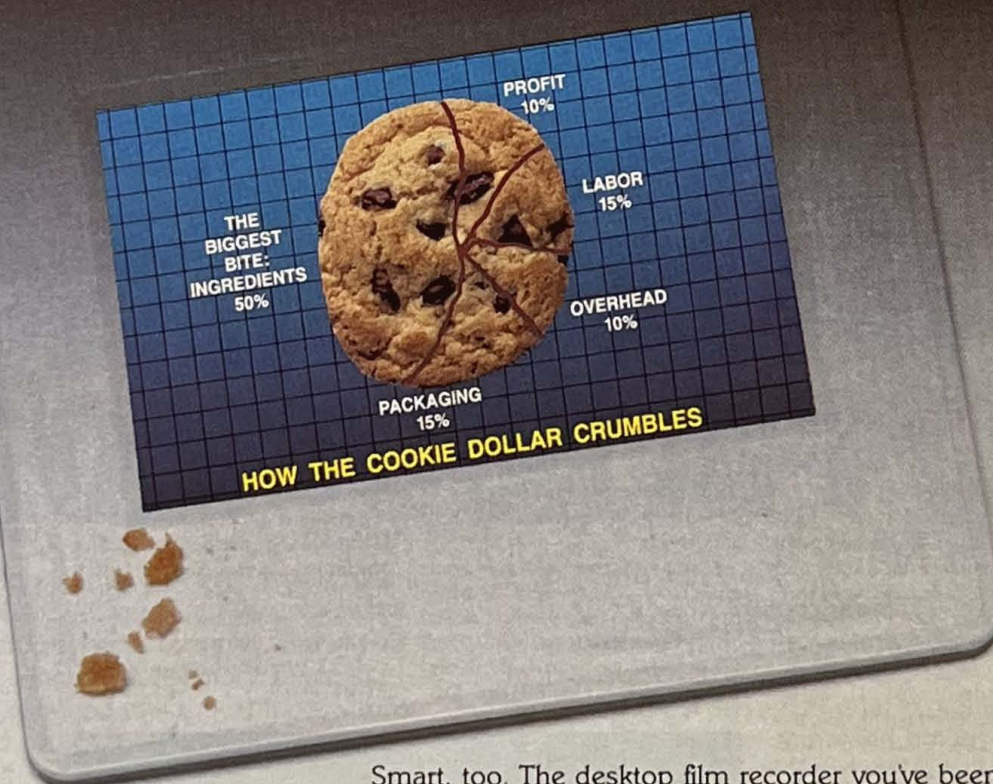
According to a Gartner Group report cited by Senn, the acceptance of the EDI standard ranges from a low of 5 percent among banking and electronics companies to 90 percent in the railroad industry.

Apple has been implementing the standard for its purchasing for the past year, said Ron Eversole, Apple's EDI director. But it is taking a gentler approach than some of the large auto manufacturers, which have threatened to cut off suppliers that do not comply, he said. "We view the whole process as a partnership," he said. "We think that Apple will benefit and suppliers will benefit."

A Mountain View, Calif.-based EDI marketing company called Input estimates that the overall market for EDI-related software, hardware and network services will reach \$1.9 billion by 1991.

— By Jiri Weiss

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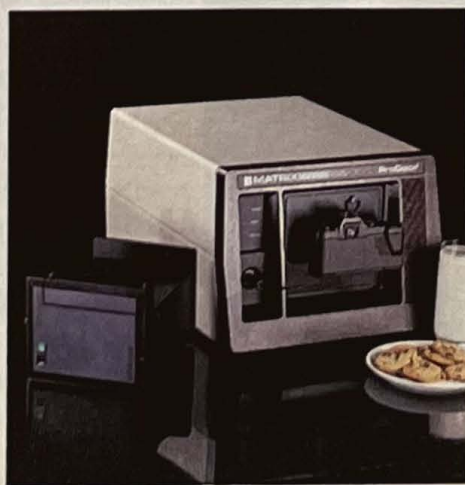
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WHEN YOUR IMAGE IS ON THE LINE.

MATRIX



SQL database access made easier

GQL gives Mac interface to data

By John Battelle

Kingston, Ontario — Combining the power of SQL with the simplicity of the Mac interface, Andyne Computing Ltd. last month released Graphical Query Language (GQL), a point-and-click interface for relaying SQL queries between the Macintosh and SQL databases.

With its new product, the company said, "users never have to see SQL — only results."

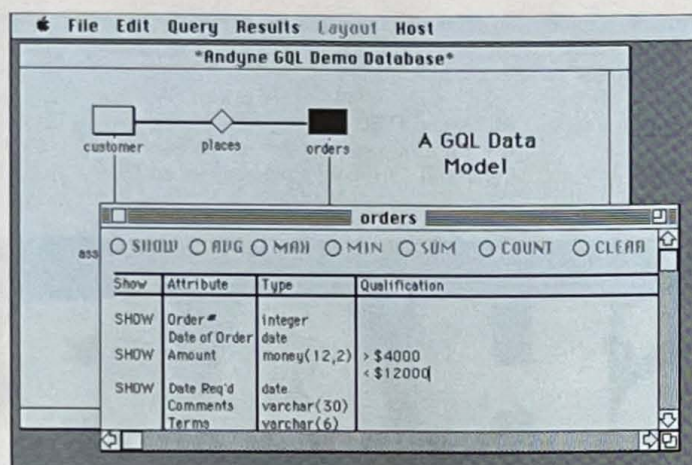
GQL works with any host SQL database and consists of two components shipping now and a third to be added in May:

- GQL/Admin is intended for database administrators and MIS departments. This \$1,995 package allows control of database modeling. Only one copy is needed per site.

- GQL/User interacts with GQL/Admin to present user queries to the SQL database through a graphical, point-and-click interface. It costs \$295 per user and is required for each workstation.

- GQL/Designer, to be released in May, will allow a graphical approach to designing new SQL databases.

GQL supports CL/1, the soon-to-be-released SQL database connectivity language created by Net-



Andyne's GQL allows users to make SQL queries through a simple point-and-click interface.

work Innovations, an Apple subsidiary. Through CL/1, GQL can access Oracle, Ingres, Sybase, VAX Rdb and RMS, DB/2, and other host database programs. Through standard serial connections GQL works with Oracle, Informix, Ingres and Tandem programs, among others.

"We need tools that will make accessing our SQL database easier for decision support people who know little about SQL," said Farzad Dibachi, a member of the Apple Focus Group at Tandem Computers in San Jose, Calif. "GQL seems to do that. It's very intuitive to use." Tandem is evaluating GQL as a means of connecting to its own SQL database, Non-Stop SQL.

"We have 20 Macs linked to a VAX running Oracle," said Dave Charlesworth, project leader with the Frontenac School Board in Ontario. "Before we started beta testing GQL, access to student records on the VAX was limited. Now the [school board] administrators can get it themselves."

"SQL is like a lingua franca among platforms and applications, but it is not a user-friendly language," said Bill Higgs, vice president of software research at Info-Corp of San Jose. "Since the Mac is a graphically based computer, a graphical front end makes sense."

Andyne Computing Ltd. is located at 544 Princess St., Suite 202, Kingston, Ontario, Canada K7L 1C7; (613) 548-4355. □

Video tutorial explains virus threat

By Emily Brower

Washington — Mac users looking for information on computer viruses can get an education from a video tutorial released by NASA's Macintosh Users Group.

The 20-minute video, created on a Macintosh II using MacroMind's VideoWorks II Interactive, includes detailed information on how to detect virus infections using ResEdit. The tape also reviews historical information on virus development and lists possible future uses of computer viruses, including industrial espionage, electronic warfare and network destruction.

According to the videotape, self-replicating code was perfected in the pre-virus 1970s by the computer war-game programmers — hackers who wrote small programs that did battle with other programs in a computer's memory. Self-replication was a standard defense technique employed by these programmers to protect their code from destruction.

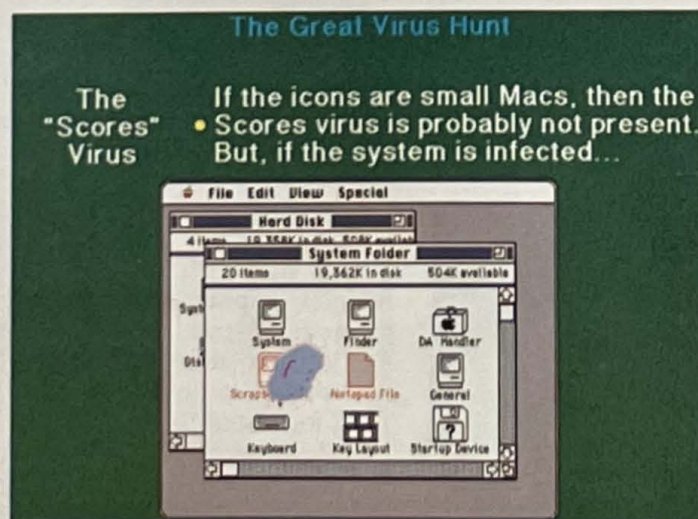
Along with this historical perspective, the video gives a graphic demonstration on using ResEdit to detect infections from Scores and nVIR strains. The demonstration

does not address detection of more recent viruses such as INIT29 and ANTL.

Copies of the tape are available from NASA for \$15, while the 10-disk VideoWorks tutorial can be purchased for \$20. Users groups are encouraged to distribute the tape and the pro-

gram to their members.

For more information, write to David Lavery, president of NASA's Macintosh Users Group at NASA Headquarters (Mail code RC), Office of Aeronautics and Space Technology, 600 Independence Ave., S.W., Washington, D.C. 20546. □



NASA's computer virus video tutorial illustrates the results of a Scores infection. As the virus infects the System file, the little Mac icons for the Scrapbook and Notepad files are changed to generic document icons.

News BRIEFS



HiJaak allows PC fax modems to transmit MacPaint, TIFF files

Brookfield, Conn. — InSet Systems has announced extensions for its graphics conversion software that will enable Mac users to fax MacPaint and TIFF (tag-image file format) files through an IBM PC-based fax modem.

HiJaak 1.1b converts MacPaint or TIFF documents into files that can be faxed via an Intel Connection Co-Processor board for the PC or via internal and external PC fax modems from Ricoh, JT Fax, Complete PC, TeliFax or EFax.

The \$99 HiJaak runs on an MS-DOS machine. Mac users on mixed networks can send a file to a PC running the program, then convert and transmit the file. HiJaak will also import faxed graphics files and convert them to MacPaint or TIFF formats.

InSet is at 71 Commerce Drive, Brookfield, Conn. 06804; (203) 775-5866.

Image Analyst extracts data from video images

Billerica, Mass. — Automatix Inc. has announced a new Mac II program for scientific and medical users who need to extract quantitative data from video images.

The \$2,000 Image Analyst, available now, lets researchers apply image-processing algorithms and measurement routines to frames of video through the Mac's graphical interface, sparing them the programming often required with dedicated systems.

Image Analyst reports measurements of two-dimensional objects in "real-world" terms such as inches or millimeters. Its image-processing options include thresholding, convolution (spatial filtering), gray-scale edge detection and feature extraction.

Images can be filtered or manipulated either interactively or by running saved sequences of commands. The program can be modified with Automatix's MacRAIL Developer's Language.

Automatix Inc. is located at 1000 Tech Park Drive, Billerica, Mass. 01821; (508) 667-7900.



Image Analyst is designed for such tasks as computing the number and size of cells in images projected by video cameras attached to microscopes or enhancing and measuring distances in radiographs.

DataSmart Projectors put Mac images on big screens

Wood Dale, Ill. — With its DataSmart Projectors, NEC Home Electronics Inc. is putting Macintosh images up on the big screen. Two projection systems developed by NEC's Professional Services Division are now available.

- The DP-1200S, priced at \$10,995, is a portable projection unit capable of displaying full-color images as large as 120 inches diagonally.

- The DP-5200S, priced at \$12,495, is a rear-screen projector with a 52-inch screen built into a wood-trim cabinet with a built-in stereo audio amplifier and speakers.

The projectors connect to the Mac II using a \$300 interface from Extron Electronics of Santa Fe Springs, Calif. The interface converts Mac II output to RGB signals.

The DP-1200S has an RGB resolution of 800 lines, while the DP-5200S offers an RGB resolution of 700 lines. Both projectors ship with a remote control for adjusting tint, color, brightness and sharpness.

NEC Home Electronics Inc., Professional Systems Division, is located at 1255 Michael Drive, Wood Dale, Ill. 60191; (312) 860-9500.

MBA Series gets 4D users started

By Henry Norr

Albuquerque, N.M. — A 4th Dimension development and training group called Generation Four has begun releasing the MBA Series, a set of customizable multi-user applications that promise a leg up to businesses in meeting standard database needs (see sidebar at right).

The applications, priced at \$189 each, require 4th Dimension, the \$695 database package from ACIUS Inc. of Cupertino, Calif., or the \$295 runtime version of 4D.

The MBA Series is designed to be easy to learn, easy to use and easy to modify, according to John Zoltai, president of Generation Four. The programs are shipped unlocked, with open source code and full documentation for both users and programmers.

Zoltai said his programs are designed to provide "the 80 percent of features that everyone needs," while making it easy for users, consultants or corporate developers to add their own finishing touches.

Tom Popejoy, publisher of a weekly newspaper called The New Mexico Lawyer, said his organization uses the MBA Clients package to produce form letters and labels for mailings to the 3,800 attorneys in the state, as well as to keep track of current and potential advertisers. Popejoy, who had not previously used 4th Dimension, said he had found the program "very easy to use."

Dennis De Cuir, an attorney at McDonough, Holland & Allen in Sacramento, Calif., uses the MBA DocuTrak application to manage written evidence for major litigation. In some cases, he said, "we must index hundreds of documents, classify them by type and author, where they came from and their significance in the case, then sort them and search them by legal issue and prepare summary reports."

"I turned to DocuTrak because I was stumbling around in HyperCard trying to do what Zoltai has more ably done," De Cuir said. One of the benefits of the program is that "lawyers and their assistants can work together on a big case with one set of rules for the document database."

De Cuir singled out the program's documentation, available on-line through a desk accessory provided with the package, as "wonderfully clear."

The MBA Series was developed around the Generation Four Application Development Shell, which provides a standard set of database functions, including import, export, backup, restore, search and sort, along with a customizable report generator. A copy of the shell is included with each of the applications.

Generation Four is located at 3232 San Mateo N.E., Suite 199, Albuquerque, N.M. 87110; (505) 294-3210. □

Layout Mover + 4D utility

Encino, Calif. — After Hours Software last week released Layout Mover +, a utility that lets users of ACIUS' 4th Dimension copy files, global procedures, layouts, layout procedures and externals from one 4D database to another. Previously, the company said, the only way to copy such items was through the Clipboard. The product is available now at an introductory price of \$119.

After Hours Software is located at 15720 Ventura Blvd., Suite 520, Encino, Calif. 91436; (818) 783-5690. □

Generation Four's database lineup

Applications already available in the Generation Four MBA Series include:

- ▶ NetMail, a telephone message log and electronic-mail system.
- ▶ Clients, a name and address directory, contact log and mailings management/mail merge system.
- ▶ Projects, a project and activities log.

▶ DocuTrak, a document and media librarian with keyword search facilities.

Seven more members of the series are due during the next few months, according to the developer:

- ▶ MassMail, a large-scale bulk mailing list manager and label generator.
- ▶ TeleSell, a telemarketing sales scripting,

customer support and order entry system.

▶ TraveLog, a trip planner and travel expenses record-keeping system.

▶ ShipRec, a shipping and receiving record-keeping system with label printing.

▶ Inventory, a basic inventory management system.

▶ Recruitment, a recruitment and personnel history manager.

▶ DistList, a large-scale memo distribution list manager.



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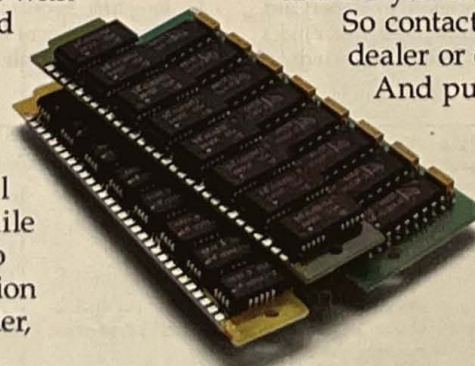
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Real estate, finance tools from Tronsoft

By Dan Farber

Santa Barbara, Calif. — Tronsoft, a publisher of real estate, legal and small-business software, has introduced nine packages for the Mac.

► Real Estate Master, a \$1,295 program for creating cash flow and profit analysis reports of properties.

► Property Master, a \$1,295 template for managing rental properties with Claris Corp.'s FileMaker II.

► MaxiLOAN, a \$395 program that provides amortization tables on variable and fixed rate and negative amortized loans, including step and balloon payments. It also graphs the results of a loan scenario.

► Real Estate Power of Attorney, a \$1,495 set of more than 100 customizable real estate legal documents.

► Business Power of Attorney, a \$1,495 set of 140 forms, such as employment contracts, copyright and permissions forms, stock option agreements and independent contractor agreements.

► Profit Center, a \$695 profit and cash flow program that func-

tions as a modeling tool for setting up or evaluating a business.

Tronsoft also offers three HyperCard stack products: Franchise Finder, a \$99 database of more than 1,000 franchises; Business Image, a \$225 five-disk stack consisting of more than 1,000 recognized, copyrighted company and agency logos and trademarks; and Capital Ideas, a \$295 database of more than 200 venture capitalists and their funding preferences, such as industry and favored funding rounds of the venture companies.

Franchise Finder and Capital Ideas stacks are updated to registered owners every six months for a media fee ranging from \$19 to \$49, said Richard Messier, vice president of marketing and sales at Tronsoft.

The company plans to offer subsets of its Power of Attorney products in the spring, Messier said. The subsets will range in price from \$99 to \$395.

Tronsoft Inc. is at 133 W. De La Guerra, Santa Barbara, Calif. 93101-3289; (805) 564-3386. □

Lightweight, heavy-duty Mac case

Pacoima, Calif. — A new compact-Mac carrying case from Zero Halliburton offers the protection of a hard shell without the weight of trunk-style cases, according to the manufacturer, a longtime supplier of cases for the luggage, photographic and industrial markets.

The \$299.95 case, big enough to hold a Mac Plus or SE with regular or extended keyboard, lets air travelers check their Macs as baggage. Made of an aluminum alloy used extensively in the aerospace industry, the case weighs only 12.5 pounds.

Zero Halliburton's Mac department is located at 12224 Montague St., Pacoima, Calif. 91331; (818) 897-7777.



FileMaker II front end aimed at small businesses

By John Battelle

Mystic, Conn. — Packer Software has announced Small Business Retailer, a front-end software package for Claris Corp.'s popular FileMaker II database.

Designed for computer novices and other users reluctant to take on the task of setting up their own databases, the \$195 package includes templates and macros for many standard business functions, including inventory control, cus-

tomers tracking, price lists and invoicing. A tutorial on how to organize business data is also included.

"Our goal is to be as generic as possible ... to get a small business running on FileMaker with an off-the-shelf package," said Douglas MacKay, Packer Software president.

MacKay said the program takes full advantage of FileMaker's Find and Omit functions, giving users easy ways to answer such complex

questions as "Which employees are presently handling which customers and how many repeat sales are they getting?" Small Business Retailer can be reconfigured as business needs change, MacKay added.

Small Business Retailer requires FileMaker II and will ship by April, according to MacKay.

Packer Software is located at 12 Roosevelt Ave., Mystic, Conn. 06355; (203) 572-8955. □

StackWEEK ERIC ALDERMAN AND STEVE MICHEL

Don't misinterpret the value of CompileIt!

PRODUCTS

Compiling Scripts. Computer users have a strong tendency to overuse new tools. If your only tool is a hammer, the old saying goes, then everything looks like a nail. This fate has befallen Tom Pittman's CompileIt! stack, just as it originally befell HyperCard itself. Remember those who said HyperCard was inadequate because you couldn't use it to write a spreadsheet program like Excel?

At first, CompileIt! appears to provide what many stack developers have long wanted in the language: a compiled (not interpreted) way to script. One of the things that accounts for HyperCard's occasional sluggishness is its interpreted nature. "If only I could compile this script," you often think, "these speed problems would go away."

As evidenced by recent messages from users on CompuServe, CompileIt! is somewhat disappointing when you approach it in this manner. Part of this problem is one of inappropriate expectations, some of which are due to the packaging, which calls the stack "The Script Compiler." We, too, had some

problems with CompileIt! when we first started using it because of these same misconceptions.

A script compiler is not exactly what CompileIt! is. Instead, it is a tool that allows you to create external commands and functions using HyperTalk instead of a language like C or Pascal. It is not a tool for wholesale script compilation. This difference is crucial.

Just as programmers face certain restrictions and limitations when creating externals in C or Pascal, so will you when using CompileIt!. In particular, CompileIt! will not allow you to create faster versions of HyperCard commands. Using the Find, Last or Delete commands from

within a compiled script, for example, won't give you any increase in speed.

Calling back. The reason for this is that these and other HyperTalk commands are handled not by the external but by HyperCard itself, through "callbacks" to HyperCard. CompileIt!, therefore, has no effect on the operation of these functions.

We have found that CompileIt! is best used as an optimization tool. You need to isolate the parts of your code that are taking a long time to execute and then determine whether they are taking a long time because of the interpreted nature of HyperTalk or because of an inherent limitation

of HyperCard. We have found that the most significant speed increases occur in functions that work with text strings or integer mathematics.

Another problem with CompileIt! is its speed of compilation. Since the compiler itself is written in HyperTalk, it certainly is slow. However, there are a couple of things to consider when evaluating CompileIt!'s speed.

First, try not to compile large scripts. If you are feeding it large scripts, you are probably misusing it, and you'll be disappointed. On the other hand, if you write short handlers that deal with the slow parts of your programs, you will get an almost respectable compilation time.

Second, it is in the nature of compilers to be slow. You trade the time it takes to compile a function for the time you gain in executing it. Don't use CompileIt! for routines that are rarely needed. Employ it to optimize often-used bottlenecks.

Optimizing. Adapting scripts to take advantage of CompileIt! takes some experience. In any programming language, there are multiple ways of accomplishing any given task. The most efficient way of solving the problem with

straight HyperTalk might not be the best way of handling it when you use CompileIt!. We have achieved varying levels of increased speed, depending on how we wrote functions. The manual and on-line documentation could certainly do a better job of explaining the ramifications of these callbacks and could offer more advice on optimizing your scripts for CompileIt!. An example of different ways of approaching a problem is shown in the script listing below.

In a sense, CompileIt! creates a whole new set of rules for writing HyperCard scripts. When used correctly it can eliminate many HyperCard bottlenecks. When used incorrectly it can be a frustrating experience that yields almost nothing in terms of performance gains.

So while CompileIt! is not the answer to everyone's dream of a speedier HyperCard, when used judiciously it can help you remove, if not actually eliminate, a lot of the bottlenecks in your scripts. — S.M.

```
function stripTrail theText
  repeat while charatnum(char length(theText) of theText) = 32
    put empty into last char of theText
  end repeat
  return theText
end stripTrail

function stripTrail theText
  repeat while charatnum(last char of theText) is space
    delete last char of theText
  end repeat
  return theText
end stripTrail
```

The second handler would be a faster approach in interpreted HyperTalk, but when both are compiled, the first handler operates faster.

If you have any questions, comments, tips or other HyperCard-related information, write us at StackWEEK, c/o MacWEEK, 525 Brannan St., San Francisco, Calif. 94107. Electronic mail: MCK: STACKWEEK; AppleLink: D1507 (Steve) or D1577 (Eric); MacNET: MICHEL or EALDERMAN.

Strawberry Tree bolsters data acquisition lineup

By Eric J. Adams

Sunnyvale, Calif. — Strawberry Tree Computers Inc., developer of a full line of Mac data acquisition products, will release a major software upgrade and several new hardware products this month.

Analog Connection WorkBench 3.0, the latest version of Strawberry Tree's object-oriented data acquisition and control programming language for the Mac II and SE, has been expanded to support the IEEE 488 protocol, a hardware interface also known as the General Purpose Interface Bus (GPIB).

"Besides being much easier to configure [than IBM data acquisition programs], WorkBench does much better displaying the data once it's in," said Jim Tops, senior control engineer at Genentech Inc. Tops uses WorkBench 2.0 in the R&D department of the South San Francisco, Calif., biotechnology company.

The object-oriented programming of WorkBench, said Tops, "is like HyperCard. It's empowering non-technical users."

Version 3.0 lists for \$995. Owners of previ-

ous versions can upgrade for \$50, according to the company.

Strawberry Tree is also introducing several hardware devices to support the software upgrade:

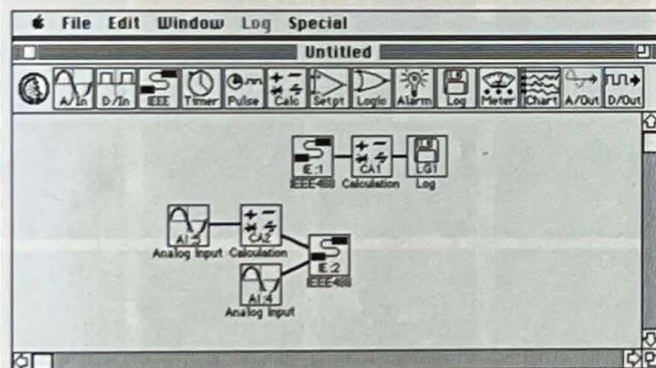
► MacSCSI488, a high-speed IEEE 488 controller, attaches to the Mac's SCSI port and offers control of up to 14 IEEE devices. The \$895 device comes with MacDriver488, an installable driver that provides IEEE control with popular Macintosh languages, and MacDA488, a desk accessory allowing data collection for any environment, including Microsoft Works and Excel.

► MacII488 is a \$695 NuBus board that allows connection of up to 14 IEEE devices without requiring special adapters. The MacII488 provides data transfer rates of better than 600 Kbytes per second, according to the company. The board also comes with MacDriver488 and MacDA488.

► Two new high-density digital I/O add-in boards for the Mac II are designed for laboratory or factory applications, such as detecting contact closures, operating relays, counting pulses, and measuring frequency and timing.

The \$645 ACM2-IO-160 can control or monitor 160 devices. The ACM2-IO-40, priced at \$345, allows for 40 I/O lines. Seven termination panels for the boards are available separately, costing from \$295 to \$1,195.

Strawberry Tree Computers Inc. is at 160 S. Wolfe Road, Sunnyvale, Calif. 94086; (408) 736-3083. □



Analog Connection WorkBench 3.0, the latest version of Strawberry Tree's object-oriented programming language, now includes support for the IEEE 488 protocol.

HyperTROL aims at home, office market with low-cost data acquisition board

By Eric J. Adams

Boulder, Colo. — Hoping to take data acquisition tools out of the laboratory and into the home and office, HyperTROL Inc. has begun shipping HyperBoard, a \$139 external data acquisition and process control board for the Mac.

"Previous approaches have been aimed at industrial-level users," said Mark Whitaker, vice president of HyperTROL. "Now anybody can afford to use their Mac as a base for such things as monitoring temperature, pressure and light levels; counting and recording events; detecting motion; and automating repetitive tasks."

HyperBoard, a stand-alone micro-controller shipped without a case, can be connected to any Mac via the serial port. It is capable of independent operations, leaving the Mac free for other uses, according to Whitaker. The board has two slots for A-Bus cards designed by Alpha Products of Darien, Conn., and marketed by HyperTROL.

A floating-point BASIC interpreter is included with HyperBoard, which is controlled with BASIC commands via any pop-

ular communications program. It comes bundled with a public-domain HyperCard stack for communicating with the serial port and another stack for LED control.

"We use HyperBoard to take readings at our transmitter 40 miles away," said Frank Christel, general manager of radio station KWGS, the voice of the University of Tulsa in Oklahoma. In the station's control room, HyperBoard checks the time, starts tape recorders and tunes to one of 12 satellite channels. "The board detects if we go off the air and via a synthesized voice alerts the control room and reception area," Christel said.

"You can't beat the product at the price, but we have been disappointed with the speed and elegance of any HyperCard stack we've seen that talks to the serial port," he said.

HyperTROL also markets a \$19.95 LED Status Board and a \$29.95 Battery Backup Socket, which provides up to 10 years back-up of HyperBoard's 32-Kbyte RAM. An additional power supply is required and lists for \$11.95.

HyperTROL is located at 1530 55th St., Suite 115, Boulder, Colo. 80303; (303) 938-1662. □

Layered pitches Insight software with 2-for-1 sale

Boston — Layered Inc. is holding a 2-for-1 sale on its Insight accounting software. Through April 15, buyers of any two Insight accounting modules will receive at no extra cost two more modules of their choice directly from Layered.

The offer applies to all five currently available modules, including the new upgrade of the Accounts Receivable and Billing module, which now includes data

import capabilities. The forthcoming Payroll module, due in April, is not included in the offer.

The first two modules may be purchased from any Insight authorized dealer or qualified installer. Users will then receive a claim form to send to Layered for two free modules of the user's choice.

Layered Inc. is located at 529 Main St., Boston, Mass. 02129; (617) 242-7700. □

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New Mac programs make beautiful music

By Cliff Lehman

San Francisco — A steady stream of music software providing everything from rhyming aids to drumming machines has hit the Mac market. Here are four recently announced products:

► Ars Nova Software has a new version of its music theory and ear training program, *Practica Musica 2.1*.

Improvements and additions include a textbook of music fundamentals called *Windows on Music*, written specifically to accompany the program.

Other new features in *Practica Musica* are Scales/Keys Signatures Training, which guides the user through scales by showing mistakes as they are played; Interval Playing and Chord Playing, for teaching about keyboard intervals and different forms of chords; and the ability to take input from MIDI (Musical Instrument Digital Interface) keyboards while using *Musica's* built-in sound to hear melodies and chords.

Practica Musica 2.1 costs \$125; site licenses with extra student score disks are available for schools and teachers. *Windows on Music* is available separately for \$29.95.

► Primera Software last week shipped a high-end drum-machine program for the Mac called *Different Drummer*.

The \$99.95 drum-rhythm composition tool is MIDI-compatible, allowing it to use the sounds of synthesizers, digital samplers and drum machines. Users can create and visually edit drum patterns and songs with 35 different time signatures and note types as fine as 256th notes. *Drummer* features also include an icon-based system of arranging pattern sequences, nested song loops and support of multiple MIDI setups.

► QuickRhyme, a rhyme-finding desk

accessory from Apriori Inc., can't find a rhyme for orange because there isn't one in English, but it will provide instant access to 1 million other rhymes for only \$54.95. QuickRhyme includes hundreds of slang expressions in its 22,000-word dictionary as well as a suffix processor.

► Sun Valley Software introduced a new

music publishing system called *Toccata* that the company touts as a more flexible alternative to rule-based music notation programs.

Priced at \$495, *Toccata* is designed to work like page-layout programs and has been optimized for music notation. *Toccata* comes with a utility program called *PICTWriter* that allows the loading of PICT-format

images of other music files.

Ars Nova Software can be reached at P.O. Box 40629, Santa Barbara, Calif. 93140; (805) 564-4866.

Primera Software is located at 650 Cragmont Ave., Berkeley, Calif. 94708; (415) 525-3000 or (800) 643-0800.

Apriori Inc. is located at 859 Hollywood Way, Suite 401, Burbank, Calif. 91510; (818) 955-9638.

Sun Valley Software Inc. is located at 198 Sun Valley Drive, Winnipeg, Manitoba, Canada R2G 2W7; (204) 663-8004. □

Blank plans CD, Alchemy upgrade

By Cliff Lehman

San Francisco — A trio of new Blank Software audio products, one of which promises to provide time compression and expansion capabilities for the first time on the Macintosh, will make their debut in the second quarter.

► *Alchemy 2.0*, billed by Blank as a major update to the original *Alchemy*, will include time compression, digital tuning, pitch shifting and automated pitch detection. The new version of *Alchemy* is scheduled to be available in April for \$695.

New features also include enhanced network and librarian functions, SMPTE time reference, direct play from disk and compatibility with the Digidesign Sound Accelerator Card.

► *Alchemy Apprentice* is a \$345 version of the current *Alchemy 1.2* without the SCSI support or digital signal processing of Version 2.0. *Apprentice*, scheduled to ship in April, is meant for musicians on a budget.

► The third product, *Anatomy of an Automobile*, is billed as the first sound collection in the Macintosh Audio IFF format. *Anatomy* is a collection of sounds created by, in, on or around a car. The sounds will be available on CD-ROM in mid-April. The price has not been set.

Blank Software is located at 1477 Folsom St., San Francisco, Calif. 94103; (415) 863-9224. □

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EndLink grabs on-line info

By Emily Brower

Emeryville, Calif. — Niles & Associates, developer of the EndNote bibliographic database package, has released a companion program called EndLink that is designed to help users beef up their bibliographies from on-line sources.

The new program imports records into

EndNote's bibliographic forms from electronic database services. EndLink moves references from files of abstracts captured from databases into EndNote's records with a series of mouse clicks, according to the company.

EndLink works with all versions of Medline and Chem Abstracts, databases available in different formats from several on-line ser-

vices. "We are promising the program works with these two databases, but we will be adding more and more compatibility. EndLink is open-ended in terms of updating," said Richard Niles, company president.

Niles & Associates has also released EndNote 1.1, a new version of the program that includes compatibility with WordPerfect and WriteNow 2.0. EndLink sells for \$99, and EndNote sells for \$129.

Niles & Associates is located at 2200 Powell St., Suite 765, Emeryville, Calif. 94608-1809; (415) 655-6666. □

Business Sense update includes guarantee

By Eric J. Adams

Torrance, Calif. — Monogram Software Inc. is adding two features to the latest upgrade of its Business Sense accounting program that users won't find in the menus — a satisfaction guarantee and a beefed-up subscription support program.

Version 1.2 of the \$495 single-user package is due to ship by mid-March, according to Lisa Magnus, marketing manager for the company. Users not satisfied with the package can exchange it within 60 days of purchase for any competing accounting package of equal or lesser value. The exchange offer will expire June 30.

The company's revamped \$150 subscription support program includes a quarterly newsletter, free upgrades and one year of unlimited telephone access to accounting representatives, according to Magnus.

Inside the package, the new version will be faster and will offer greater compatibility with new laser printers, the company said.

"I've used several Macintosh accounting programs, but this is by far the easiest," said Mark Chernoff, president of Mark Chernoff Insurance and Financial Services, a Dana Point, Calif.-based company. "What impresses me most is the speed and easy entry."

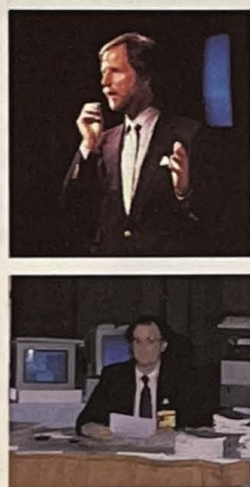
Business Sense includes five integrated modules that can be opened simultaneously: general ledger, accounts receivable, accounts payable, payroll, and invoice and budgeting.

The program is designed for companies with up to 50 employees, 1,500 vendors and/or 2,000 customers, according to Monogram Software.

Users who purchased Business Sense prior to May 31, 1988, can upgrade for \$89. The upgrade is free for those who purchased the package after May 31 and for those who enter into the subscription program. The company also markets the Dollars and Sense, Moneyline and Tax Advantage packages.

Monogram Software Inc. is located at 531 Van Ness Ave., Torrance, Calif. 90501; (213) 533-5120. □

... Well, it's about time.



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Business forms from JLA now available as PICT files

Kulpsville, Pa. — JLA Computer Services is now offering its clip art business forms in PICT format.

PROpsFORMS, a \$79 collection of 90 ready-to-use business forms, was originally distributed as a set of SuperPaint files. Users needed SuperPaint from San Diego-based Silicon Beach Software to view, change and print the forms.

In Version 2.0, released this month, the company has adopted the PICT standard, enabling any Mac application that imports that file format to view, modify, add graphics to and customize the forms.

PROpsFORMS includes forms for sales and project management, accounting and financial records, purchasing and materials, and personnel and time accounting.

Current owners of PROpsFORMS will receive the new version free.

JLA Computer Services can be reached at P.O. Box 444, Kulpsville, Pa. 19443; (215) 855-5159. □

Letters

Groupware products are horizontal, not vertical

Although I strongly agree with much of what Roberta Graves wrote in her Mac soapbox ("Focusing on vertical markets," Jan. 17), she misses the mark in at least one respect. She strongly infers that groupware is just a poor attempt to sell a general catch-all product to vertical market clients when their real needs are not understood. While some unscrupulous software vendors may try this, we forbid our resellers from doing so.

Our company began with a couple of well-designed vertical market products and later incorporated our groupware product, DELTA MANAGER, into the verticals. This product, under development since 1984, integrates with our manufacturing software in several ways to help managers keep a tight rein on manufacturing operations.

One cannot effectively use groupware except in a true multi-user environment. Most groupware

products receiving press coverage require a LAN to be anything more than just another office automation product.

The point is that groupware is, and should be, a horizontal application. Groupware should never be considered anything more than a very useful tool to be integrated with well-designed vertical applications. Running a law office or a real estate company with groupware is like running a manufacturing plant with a spreadsheet. It can be done, but it is ineffective at best. Anyone marketing groupware as vertical software is doing a severe disservice to their clients.

Max Minor
MicroPlan Development Corp.
El Paso, Texas

Cost of optical media is less than expected

Much misinformation exists in respect to optical media, including the popular perception that making CD-ROMs is expensive. MacWEEK's story ("CD-ROM discs from the desktop," Feb. 7) about the TOPIX CD-ROM encoding and mastering system

that costs in excess of \$150,000 might confuse some readers as to the real costs involved in publishing in this optical format.

For the vast majority of CD-ROM projects, the only tools necessary are a large hard drive and, in some cases, a search-and-retrieval system from the Mac. The completed disc is backed up and shipped to a CD pressing plant, where the image is frozen and mastered prior to being stamped out on the presses in a clean room.

Turnaround times generally range from three days to 10 days, depending on the production schedule of the CD pressing facility. The cost of mastering your data and pressing 150 discs is less than \$3,000. This price point may come as a surprise to readers of MacWEEK.

CD-ROM products vary widely in scope and variety, but very few need the benefit of an expensive multimedia authoring environment. The truth is that the most useful products being delivered in the CD-ROM medium are informational in nature, with a strong emphasis on productivity and little need for so-called "bells and whistles."

See LETTERS, next page

Editorial

The database deficit

For Macintosh managers working to expand use of the Mac in their organizations, the score card issued last month by the Software Publishers Association contained mostly good news. Sales of Macintosh applications, as good a benchmark as any of current use patterns, advanced by 63.4 percent, while PC-based software sales grew by just 44.5 percent. The Mac's total share of the 1988 software market advanced by almost 2 percent, to 11.7 percent.

That's real progress. When broken down by software category, however, the numbers reveal one critical continuing weakness of the Mac. Sales expanded faster for the Mac than the PC in graphics, word processing, spreadsheets, desktop publishing and integrated software, but in the important corporate category of database management, Macintosh applications are not even in the same ballpark. Not only do PC database packages outsell Mac products by a ratio of more than 20-to-1, but Mac sales actually declined by 4 percent in 1988 from 1987. Why is the Macintosh failing so spectacularly in this fundamental category of corporate microcomputer use?

In search of reasons. Is it that, despite Apple's seemingly successful push into corporate computing, the Macintosh is still seen primarily as a graphics machine? No, because the strong sales of spreadsheets, word processing software and other productivity tools demonstrate that the Mac has moved beyond its art department and engineering ghettos and is now well-accepted for general business applications.

Has there been a failure by the software developers to provide robust tools for Macintosh database management? Again, no, because new products from Fox Software, ProVUE and Oracle, complementing existing packages from ACIUS, Blyth, Odesta, Ashton-Tate, Claris and Microsoft, fill out a strong lineup of software that covers the low and high ends of the category along with several special niches.

If it's not the software or a cultural anti-Mac bias, why hasn't the Mac succeeded in the database arena? Part of the reason is the computer itself. Building complex database systems requires high-performance servers sitting at the heart of fast, manageable networks. And as good as the Mac is as an individual workstation and a node on a resource-sharing network, Apple has so far failed to provide very high-performance computers or networks suited for serving advanced database requirements.

And there's a bigger problem, one that is more a matter of history and politics than of technology. Despite the gospel of cooperative processing and distributed databases, data remains a corporate resource to which the high functionaries of MIS still jealously guard the keys. With the PC's three-year head start over the Mac in local and mainframe connectivity, systems are already in place that may block the Mac from penetrating the centralized data-management function.

A brighter future. The future is not so bleak on the user side of the database equation. Once the basic data repository structures are set, it shouldn't matter what personal computer or what software package is used to access and manipulate the data locally. The various Mac database developers who are implementing SQL and APPC solutions will be well-positioned to sell their products to enlightened companies that support the Mac and are pursuing distributed database strategies.

By recognizing the realities of the PC, mainframe- and minicomputer-dominated database world, Mac software developers can adapt their products so that Macintosh users will not be cut off from equal access to corporate data. Mac users may be out of the ghettos, but they will still not be in the corporate mainstream until Mac database use is on a par with other application categories. □

Mac Soapbox ANDREW GOODMAN

Desktop video? Not so fast!

To listen to Apple and other hardware and software developers talk, desktop video is becoming the next desktop publishing. Soon, computer users with little or no video production experience will be happily generating professional-looking videos, just as computer users with little or no graphics and type specing experience once learned how to generate professional-looking newsletters.

But Apple and the others are wrong. While video is a powerful way to communicate, desktop video is not now analogous to desktop publishing and is not going to be for some time, if ever. Videotape is not paper, meaning that it is much more difficult and more expensive to produce a quality videotape than a quality newsletter.

Because we are all used to putting words on paper for some purpose or another, the transition to desktop publishing, with fonts, graphics and layout added to or superimposed on words, was not a major leap for many people. But most businessmen and businesswomen aren't accustomed to putting sound and pictures together in a recorded, linear fashion. For them, producing desktop videos is traveling in a foreign land. The process is complicated and often tedious, and so far the computer can do very little to help the amateur.

Personal computers are also of little help, so far, in reducing the



though these products cost thousands of dollars and one must often wait overnight for them to generate pictures of sufficient resolution for video.

Yet even when these products do their job, they still beg the question of how much of the marketing or training video in question is going to be graphics. In

most cases, the answer is probably "very little." The bulk of a marketing or training video consists of pictures shot with a video camera of real people and products in the real world.

But, the desktop video supporters protest, "there are Mac-based editing systems that cost less than \$10,000 and can edit these pictures." It's true that editing software like MIDAS from Seehorn Technologies of San Jose, Calif., and VideoMaker from VideoMaker Systems of Santa Cruz, Calif., offer some exciting capabilities for the video professional. But they don't make the process of producing a video any

See SOAPBOX, next page

Letters

Continued from previous page

This is not to discourage publishers from exploiting the full potential of the CD-ROM medium. Products like Mediagenics' Manhole offer an exciting combination of digital audio and simple animation techniques that could blossom into a new "edutainment" platform.

Robert A. Burr, president
QLTech
Coral Gables, Fla.

Symantec clarifies policy on pricing and naming

Regarding Symantec and our Pascal products: MacWEEK listed the cost of THINK's Lightspeed Pascal/Just Enough Pascal bundle at \$75 ("Just Enough Pascal a valuable intro to Pascal programming," Jan. 24). The bundle price is actually \$149; Just Enough Pascal sells separately for \$75. However, this promotional bundle offer was discontinued as of

Jan. 31. Effective Feb. 1, we increased the price of THINK's Lightspeed Pascal from \$125 to \$149.

In addition, there has been some confusion about the names of our products and the name of our company. The official product names are THINK's Lightspeed Pascal and THINK's LightspeedC, and we call them THINK Pascal and THINK C for short. The company has been called Symantec Corp. since July 1988, when all the divisions of Symantec (THINK Technologies, Living Videotext and Breakthrough Software)

dropped their divisional names to allow us to create one cohesive organization. In the future, please help spread the word that we are Symantec Corp.

Doreen M. Duplin
director of marketing communications
Symantec Corp.
Bedford, Mass.

Send letters to MacWEEK, 525 Brannan St., San Francisco, Calif. 94107. MCI number 323-1203; fax number (415) 243-0513. We reserve the right to edit for length or clarity.

Soapbox

Continued from previous page

simpler than traditional editing equipment.

More importantly, the \$10,000 price tag is not any lower than the cost of dedicated video edit controllers. In fact, the simple ones are far cheaper once you consider that the computer is not included in the \$10,000 price tag. And, of course, the cost of the camera and the videotape recorders for editing must be factored into a desktop video budget.

At the video expo, Julian Systems was showing The Worx, a complete editing system based on the Mac II that for \$60,000 included two Super-VHS videocassette recorders. Unfortunately, home video formats like Super-VHS and 8mm videotape cannot maintain a high-quality picture throughout the editing process. The picture breaks down from generation to generation.

And that's not the only reason that home video formats are inadequate. When your employees or potential customers put your desktop-produced videotape in their machine, they'll be watching the same screen on which they normally see movies and television shows produced with millions of dollars worth of equipment. For the videos to look as much like those shows and as little like home movies as possible, you need to use a professional video format. But replacing the two super-VHS decks on the Julian Systems edit bench with decks capable of working in one of the two most popular professional video formats — three-quarter-inch or Betacam — could double the price of the system.

In fact, most desktop editing systems are really designed for "off-line" editing, the least expensive part of the production process. Videos are generally edited in two steps. The first is called the off-line process, in which a rough cut is made of the video using cheap copies of the original tapes with editing equipment like VHS or inexpensive three-quarter-inch systems. Once the off-line is complete and the editor has a list of every edit, the original Betacam or three-quarter-inch tapes are taken into an "on-line" edit suite, where editing can cost from \$500 to \$1,000 per hour. All the fancy video effects that everyone wants are created in the on-line edit suite, and personal computers can do almost nothing in on-line editing.

The point here is not that computer-aided professional videos can't be done; they can. But a video novice can't do them. Forget the desktop publishing analogy because making a video is more like publishing a magazine or an art book than a newsletter. And don't be fooled by the Mac's ease of use. The real work in producing a video has nothing to do with the computer. □

Andrew Goodman was the co-host and chief correspondent for "The Computer Show," a nationally syndicated television program. He has written and produced both corporate and commercial videos, including a two-video set called "On becoming a desktop publisher."

45 MB Removable Cartridge SCSI Hard Disk Drive



Micro/Removable Cartridge Hard Disk Drive

The Micro/Removable, 25 ms, 45 MB winchester hard disk is faster than some fixed hard disks. They are excellent for organizing related data or for fast back-up of fixed hard disk drives. The cartridges can be locked away for security or safely mailed to remote locations and have the reliability of a floppy diskette. You can boot from the removable, if needed, and the system is compatible with the Macintosh Plus, SE or Macintosh II. Utility includes password protection and a DA to mount volume.

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MicroNet offers 30, 46, 62, 91, 173 MB, fast access hard disk drives, as well as a 150 and 300 MB streaming tape backup system in a stackable cabinet. Internal brackets available for the Macintosh SE or II. Great care was taken in the design of these systems to ensure reliability. **150, 300, 600 MB, 16.5 ms, Wren III, IV and V Systems.** MicroNet specializes in Control Data drives that are industry known for their reliability and speed. Internal and external systems with tape combinations available.

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Charles F. McConathy, President

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Mac bests Sun for check printing

Check manufacturing firm picks Mac system over Sun

By Henry Norr

"You guys have four more hours. I have to see that this can be done on the Mac or I'll go with Sun," Tom Kendall told the staff at Harper Computers in Portland, Maine, last August.

Thanks to Tempo II, the macro utility from Affinity Microsystems Ltd., and the Mac savvy of Harper Computers' customer support representative and product evaluator Stoney Cook, the dealer met the challenge and made the sale.

As vice president of data processing at Veribest Business Systems Inc., a check manufacturing company located in nearby Auburn, Maine, Kendall was in the market for a computer system that would automate the process of setting up customized checks for printing. Previously, Veribest's pre-press department had relied on manual paste-up and stripping before burning a plate for the press.

The task was hardly a simple one. Veribest stores data for each check order — the customer's name and address, bank and account numbers, and formatting codes specifying the color, style, stub width and quantity of checks desired — on its VAX minicomputer. What Kendall wanted was a system that could read the data stream downloaded from the VAX; interpret the formatting codes; sort the orders by quantity and color; then lay out the checks, five up, with all the required data properly positioned and styled.

And to meet the stringent specifications the banking industry has established to ensure that checks are machine-readable, the registration had to be precise; in some places, tolerances are only one

thousandth of an inch.

One condition that ruled out several systems and almost did in the Mac specifies that on each check layout a single line of text must be rotated 90 degrees for vertical printing on the stub.

Before approaching Harper Computers, Kendall had done some research of his own, beginning last June. Representatives from Sun Microsystems had made what Kendall called "a very positive presentation," demonstrating on-site that their workstation could handle the job and offering an attractive price.

Still, Kendall liked the Mac, although he had no prior experience with the machine. "My pre-press staff isn't high-tech oriented," he explained recently. "I needed equipment that people would be attracted to, not intimidated by."

He soon concluded that among Mac programs only QuarkXPress had the precise registration and typographical controls he needed. The hitch was that XPress had no facility for rotating text to create the stub line, nor could it move automatically from the VAX download to a finished layout.

That's when Kendall went to Harper. "I want the Mac," Cook remembers him saying, "but if it can't do the job, I can't take it."

Cook showed Kendall that Claris'



Stoney Cook (left) of Harper Computers convinced Tom Kendall that the Mac could meet rigid check printing requirements.

MacDraw could handle the text rotation. And together with associates at the dealership, he set up a rudimentary system using HyperCard to process the downloaded data and QuicKeys, the "keyboard enhancement" utility from CE Software of West Des Moines, Iowa, to automate the task of flowing it into XPress for formatting.

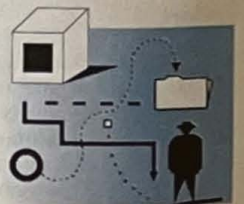
That system was slow, though, and because QuicKeys was not designed to handle macros of such complexity, Cook was unable to automate a key part of the process: moving the stub line text to MacDraw, rotating it, then pasting it back to XPress.

Then Cook remembered reading about Affinity Microsystems Ltd.'s Tempo II macro utility. He called the Boulder, Colo., developer to request an evaluation copy.

Affinity immediately sent the software for overnight delivery. But the delivery service somehow shipped it to San Francisco and from there to Portland, Ore. It took

See CHECKS, Page 24

One-minute MANAGER



Claris' upgrade toward independence

Mountain View, Calif. — As Claris Corp. makes the transition from Apple subsidiary to independent, it has shifted the focus of its customer relations and technical support services exclusively toward registered Claris customers.

The Mountain View, Calif.-based company on Feb. 1 withdrew its previously free support of Apple-labeled versions of its products. People wishing to become registered users for continued direct support can pay a specified fee (upgrading from pre-5.0 MacWrite versions to MacWrite II is \$75, for example). This status entitles software owners to Claris' telephone hot line support, Technical Solutions monthly newsletter and notification of product upgrades and updates.

Users attached to their Apple-labeled versions of MacWrite, MacPaint, MacDraw or MacProject can still receive support through Claris' on-line AppleLink service, CompuServe and written correspondence.

Claris offers a percentage discount for corporate sites that upgrade 50 or more copies of a registered product.

For more information, call the Claris distribution center at (800) 544-8554.

Alberta Government Telephone considers large Mac purchase

Edmonton, Alberta — Alberta Government Telephone, one of the Canadian province's largest employers, is adding the Mac to its approved list and considering the purchase of as much as \$3 million worth of Mac equipment over the next year and a half.

Kevin McNeely, manager of Information Center Services at the company, said AGT will use the Macintoshes for general office work as well as for desktop publishing and training.

Employees will have to apply to McNeely's group for approval to use a Mac. "The issues that would be considered would be type of application, [computer] literacy of the user" and compatibility with existing computers in the work group, McNeely said. He would not confirm the \$3 million figure reported, calling it the "upward limit" of possible purchases.

Members of Seattle users group carry buying clout

Seattle — The Macintosh Downtown Business Users Group (dBUG) here is not your average users group by any means. And judging by its phenomenal growth, dBUG may be characteristic of a shift nationally in the profile of users group members — away from the enthusiast and toward the serious business user.

Founded in 1985, dBUG has more than 1,000 members, twice its membership of just one year ago, according to Tim Celeski, graphic designer, dBUG co-founder and past president.

A survey of members taken in March 1988 found that nine of 10 members made Macintosh buying decisions in their work place in the past year, 70 percent were directly responsible for recommending or specifying brands, 54 percent recommended or specified vendors and dealers, and 49 percent were directly responsible for authorizing purchases.

In addition, 51 percent connect Macintoshes to other computers, 13 percent connect Macintoshes to mainframes, 75 percent use communications products, 60 percent use HyperCard, 74 percent use desktop publishing programs, 77 percent use graphics software, and 87 percent personally use a Macintosh an average of 22 hours per week.

For information about dBUG, call (206) 624-9329.

Net Results

Networking recipe: Hardware, software, education

Recently a networking client of mine faced an interesting challenge. The company had 45 stand-alone Macs, 35 stand-alone IBM-compatible PCs and three AppleTalk LANs connecting 20 Macs. The client needed help putting all the machines on AppleTalk, connecting the three LANs and providing access to the IBM mainframe.

The data processing managers within this company had already spent a lot of time and effort investigating various connection strategies but did not feel comfortable evaluating the information they had collected. In effect, they were

demoralized by their inability to apply their mainframe expertise to the microcomputer.

The first job was connecting the IBM PCs to AppleTalk. My options included Apple's AppleShare PC, Tangent Technologies' PC MacBridge Plus and Hercules' Network Card Plus (a board combining Hercules graphics with an AppleTalk port). Be-



BY PETER LISKER

cause many of my client's PCs were so old that they pre-dated Hercules graphics capability, I decided to kill two birds with one stone. I chose the Network Card Plus, providing 720-by-348-resolution monochrome graphics with AppleTalk.

Next, I turned my attention to bridging the three LANs. I strongly considered InterBridge from Hayes and NetBridge from Shiva. In the end, though, I suggested the PhoneNET StarController from Farallon Computing. Basically, I like this product's easy expandability — one StarController can hook up to 12

See LISKER, Page 24

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Someday, if *Publish!* magazine is right, other printers will offer all this. But if you prefer not to wait, just visit your authorized GCC Technologies dealer for a BLP demonstration. For more information, or the name of a dealer near you, phone (617) 890-0880.*

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Checks

Continued from Page 22

six days before the package finally reached Harper Computers.

"Tom was getting pretty disgusted by then," Cook remembered. With Kendall's self-imposed Labor Day ordering deadline approaching, he was on the verge of signing with Sun. That's when he gave Cook and his associates the four-hour deadline.

Although he had never used Tempo before, Cook soon had it running. He discovered that Tempo had enough intelligence to

interpret the data stream by itself and that it had the power to automate the movement of text between XPress and MacDraw.

"That's what did it," Kendall said. Convinced at last that the Mac was up to the job, he placed an initial order for two Mac IIs, each with 4 Mbytes of memory; a 19-inch SuperMac monitor; and a LaserWriter IINTX for proofing.

One interesting note: To perform the text rotation, Cook and Kendall have stuck with Claris' MacDraw 1.9.5 rather than any of more-sophisticated graphics programs they

evaluated. "MacDraw may be old," Cook said, "but it does just what we needed with a simple menu command, which is something Tempo handles beautifully. Sometimes it's better to stick with something simple and straightforward, even over a program with lots of nifty new features."

Getting the new system into full production hasn't been easy. A special font called MICR (magnetic incoded character recognition) is required for code numbers and symbols on the check. Kendall acquired one PostScript version, only to discover that two

of the 14 characters in the font failed to meet the stringent standards set by the American National Standards Institute.

That problem was solved recently when Adobe Systems released its version of MICR. According to Kendall, the font passed the ANSI test "with flying colors." Now he's shopping for a plate maker that will produce the 15-by-19-inch plates he wants directly from a Mac file. Logos that customers want on the checks are also "a challenge," Kendall said. He's been using a service bureau in Portland to scan in logos, but Kendall may have to purchase his own scanning equipment. And he has hired a consultant to look for ways to speed up the production process on the Mac, perhaps by taking advantage of QuarkX-Tensions, a set of hooks that allows programmers to add custom functions to XPress.

"We're moving slowly," Kendall said, "but things are going fine."

Veribest recently began limited production of Mac-designed checks, and the computers are also being used for other layout work as the staff is trained on them. Kendall said that he has no regrets about choosing the Mac; in fact, he expects to order three more soon.

Cook and Harper Computers got more than just another sale from their dealings with Kendall. As an offshoot of its primary business, Veribest has been a DEC value-added reseller since 1979. In December, Kendall sold Harper Computers a DEC VAX 3300, running PacerShare software, to be the 33-employee store's primary server. □

We do windows.



Multi-windows, actually.

With PacerLink connectivity software, Mac users can manage multiple VAX jobs by viewing multiple concurrent terminal emulation sessions. Enter data in one window and your VAX host updates all others continuously, even under MultiFinder.

Using Mac techniques, you can adjust PacerLink windows as you please. Enlarge, miniaturize, stack or just stick them in a convenient corner to keep an eye on!

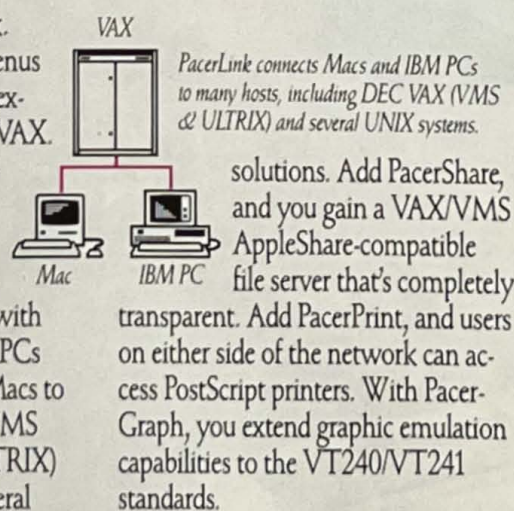
To make the VT100 and VT220 terminal emulator even more useful, we've built in programmable "softkeys" that allow complicated interactions to

be executed with a single click. Along with the pull-down menus and windows, these softkeys extend the Mac interface to the VAX.

Equally important, PacerLink integrates its terminal emulation with file transfer, virtual disk and print services to give you full functionality with one product. It connects IBM PCs (and compatibles) as well as Macs to VAX (VMS and ULTRIX) and several UNIX systems.*

User-programmable "softkey" macros allow long VAX command streams to be executed with a single click.

PacerLink is the core of a powerful family of integrated micro to mini



solutions. Add PacerShare, and you gain a VAX/VMS AppleShare-compatible file server that's completely transparent. Add PacerPrint, and users on either side of the network can access PostScript printers. With PacerGraph, you extend graphic emulation capabilities to the VT240/VT241 standards.

For more information on how you can plug your Mac users into VAX power, call (508) 898-3300 or (619) 454-0565.

Pacer
SOFTWARE

Lisker

Continued from Page 22

ports, and StarControllers can be linked to create larger networks — as well as its fairly simple installation.

Users requiring access to the IBM mainframe fell into two groups: the four people who needed almost continual access to the host and its resident financial packages, and everyone else who interacted with the mainframe infrequently.

For the four users with special access needs, I chose MacIRMA from Digital Communications Associates. The company already had several IRMA boards for its PCs, which meant that it had all the mainframe system software for file transfer that the Mac users would require. In addition, the local 3274 controllers had unused ports available for the MacIRMA users. All we had to do to get everything working was run a coaxial cable from the controller to each machine.

For all other users, I ordered a Tri-Data Netway 1000 gateway, which allows up to 16 devices to access the host simultaneously.

The mainframe network has to be told that a new controller (in this case, the Netway 1000) resides on the network. It also must know that the additional controller is itself connected to microcomputers. To do this, the mainframe communications system programmers must define the cluster controller to the host network. This was familiar territory for my client's data processing managers. They took over where my job as connectivity consultant ended.

Aside from the nuts and bolts of connectivity, this consulting job brought up some important issues. First, data processing professionals who were perfectly comfortable with mainframe technology felt ill at ease with microcomputer connectivity — even a solution as straightforward as AppleTalk. This brings up the second point: the importance of education. The data processing managers suddenly faced a whole new set of concerns. My job was to point them in the right direction as they grew more comfortable with this previously unfamiliar view of connectivity. □

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Memory MacLite can be expanded to over 1.5Mb of memory. There's 32K built in, and three memory modules of up to 512K can be inserted under the keyboard. (A 128K memory module is included with MacLite, for a total of 160K.)

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Backup on the track

Tape drives are not the only solution, or even the best solution, to backup, but no backup is no solution at all.

By Renee Mathews

Backing up data is a lot like volunteering for a good cause. Everyone agrees it should be done, but few people actually want to do it.

For Mac users who do invest in preserving and protecting their data files, quarter-inch tape drives are the backup solution of choice.

According to Dataquest, the San Jose, Calif.-based market research group, the entire quarter-inch tape drive industry shipped more than 1 million units worldwide in 1987. That figure is expected to more than double by 1991.

For the most part, the medium used by the quarter-inch tape products falls into one of two tape cartridge categories:

- ▶ The DC2000 mini cartridge, used mainly on 40-Mbyte products.
- ▶ The DC600 full-size cartridge, for drives with capacities ranging from 60 to more than 300 Mbytes.

Improvements in data cartridge

technology and tape drive performance, as well as enhancements to backup software, have made the process of backing up data less time-consuming and cumbersome. For instance, 3M Co., a pioneer in data cartridge technology, estimates that one square inch of tape today holds as much data as 460 square inches of tape held in the early 1960s. 3M forecasts that by 1990, standard DC2000 cartridges will hold 300 to 400 Mbytes of data and DC600 tapes will have a capacity of 1 to 1.3 Gbytes.

Most tape drives available to Mac users come bundled with backup utilities that make for easy and efficient data preservation. Features often include incremental, file-by-file and selected file/folder and image backups.

In addition to traditional hard disk backups, tape drives are also used for such functions as archival and image storage, distribution and transportation of data and software, data security, secondary mass storage, and database storage.

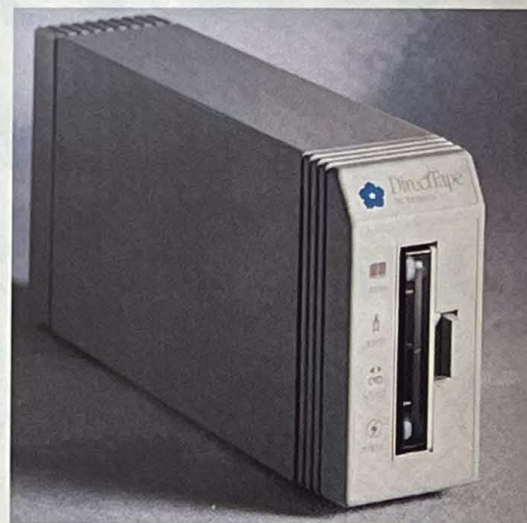
A variety of quarter-inch tape drive options, ranging in capacity from 40 to more than 300 Mbytes, are available to Mac users.

Apple's sole offering in the tape backup category is a 40-Mbyte system, the Apple Tape Backup 40SC, which competes with several lower-priced 40-Mbyte systems. These include the HyperTape II from GCC Technologies, the DirectTape from Jasmine Technologies Inc., the QT-Mac40 from Tecmar Inc., the Backup tape drive from Irwin Magnetic Systems Inc. and the TG-4000 from Tallgrass Technologies Corp. Each of these drives uses DC2000 tape cartridges and employs the QIC-100 recording format endorsed by Apple.

For higher-capacity drives, Mac users can choose from offerings such as the MaxStream 60- or 150-Mbyte systems from Archive Corp.; the 155-Mbyte Impact Tape from EMAC, a division of Everex Systems Inc.; and the HammerTape 150- and 300-Mbyte drives from FWB Inc. All these units use DC600 tape cartridges.

Another high-capacity tape backup product outside the quarter-inch realm is based on helical scan recording technology, which is used to store data on 8mm videocassettes. One example of this technology on the Mac is Genius 2GIG from Genius Inc. Genius 2GIG is priced at \$4,995 and stores up to 2 Gbytes of formatted data per cartridge.

Several companies are also offering streaming tape systems based on Teac mechanisms. The medium used in these tape drives resembles an audio cassette. Among the companies offering the Teac drive are Microtech International, which offers the 60- and 150-Mbyte



DirectTape from Jasmine Technologies Inc. is a 40-Mbyte system that uses DC2000 tape cartridges.

Novy tape drives; Giga Cell Systems Inc., which offers 60- and 150-Mbyte versions; and MicroNet Technology Inc.'s 60-Mbyte model. The Teac mechanism runs about twice as fast as the DC2000 and DC600 drives, according to Brian Campbell, vice president of marketing at Microtech.

The quarter-inch tape drive market will continue to compete with other backup options such as rewritable magneto-optical drives and WORM (write-once-read-many) drives. Aimed at the high-capacity segment of the backup market, these devices are more expensive than quarter-inch tape products but typically store 600 to 800 Mbytes of data per media cartridge.

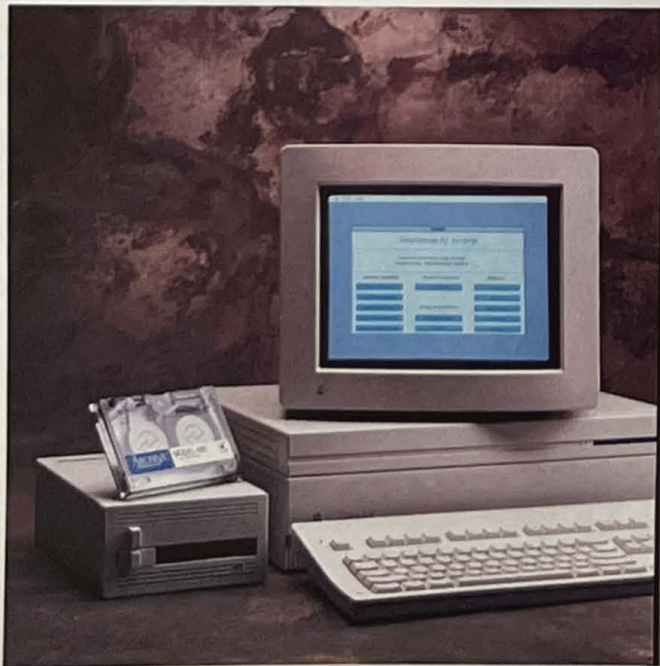
One issue that continues to plague the tape drive market is the inability to exchange tapes among

drives made by different vendors. Since Apple has adopted DC2000, most manufacturers that use the same cartridge format in their drives offer some type of compatibility. But sharing data with systems outside the Macintosh realm can be a problem.

Two vendors that have acted to alleviate the multivendor incompatibility problem, if only among their own tape products, are Irwin Magnetic and Archive Corp. Irwin features EzTape iconographic software, which allows Mac systems to share data among other microcomputers with Irwin backup systems. Archive is promoting its Universal Tape Format backup software, which allows for data interchange between Mac systems and all ArchiveVP series tape subsystems for the IBM PC and compatibles. □



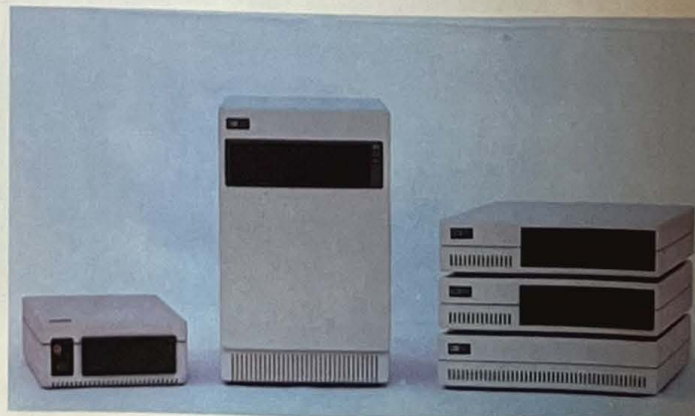
Tecmar Inc. makes the QT-Mac40 and higher-priced models, QT-Mac80 and QT-Mac150.



The MaxStream 60 (above) is one of the systems in Archive's MacStream line. Units in the line use DC600 tape cartridges.



High-capacity tape drives, such as HammerTape (above) offer users from 150 to 300 Mbytes of data storage.



The media used in Giga Cell's drive, which is based on a Teac mechanism, resembles an audio cassette tape.

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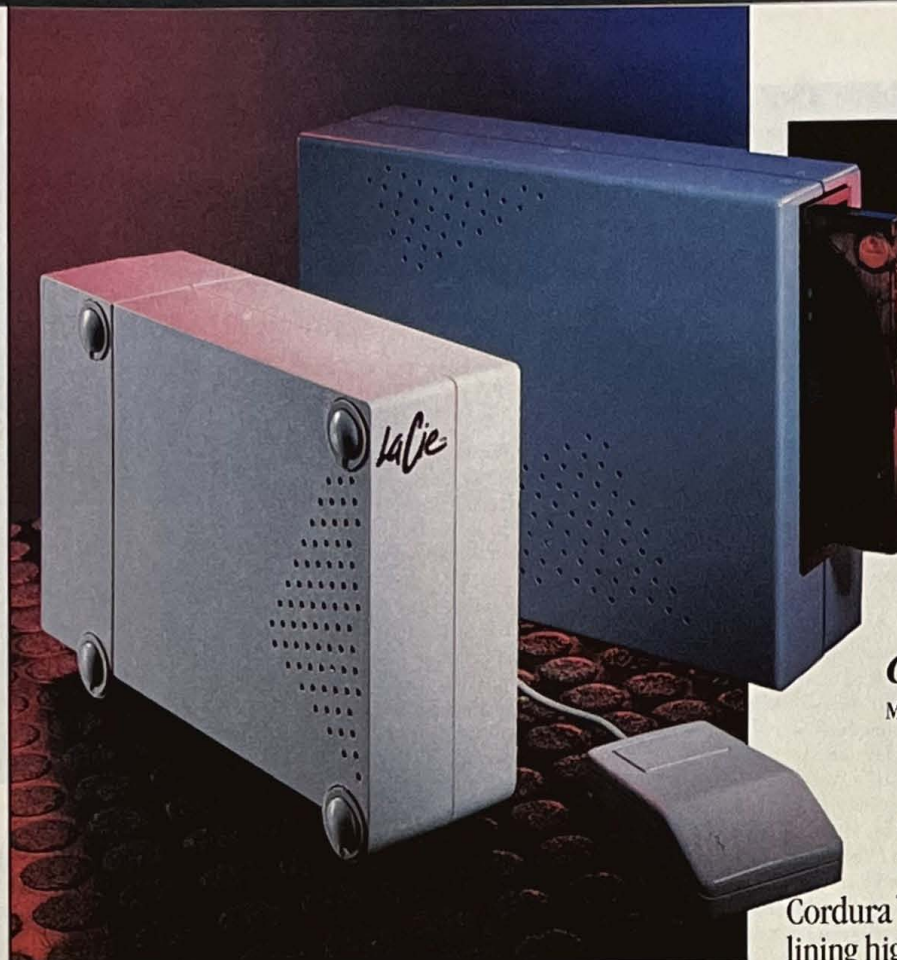
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Slow on the uptake

Tape backup has been slow to establish itself with Mac users, and for good reasons.

By Steve Hannaford

Among serious PC and minicomputer users, tape backup is universal, routine and well-established. In the Macintosh arena, however, many users are ambivalent about the medium. Reliability, price and, above all, speed are major concerns. Many have hesitated to invest in tape drives or have turned to alternative technologies like removable hard disks for their backup needs.

"It's estimated that there is only 10 percent of the tape penetration in the Mac market that there is in the IBM market," said Larry Zulch, president of backup software developer Dantz Development Corp., who has made a thorough study of the market.

Why has this reluctance to use tape arisen? Part of the problem may come from the variety of incompatible tape products on the market. Not only are there three basic tape drive types on the market (DC2000, DC600 and Teac), but each of those drives supports

different tape capacities, different spooling formats and different user interfaces. In addition, small variations in software between otherwise identical products can result in large differences in speed.

The safe response in the face of such confusion might be to reach for the brand name, in this case Apple. As Derrick van Atta, president of Palo Alto, Calif., dealer ComputerWare said, "If Apple had established an effective standard early on, tape would be well-established in the Mac market." But van Atta and many others agree that the Apple tape drive has been a failure.

Apple selected a DC2000 tape drive for its tape product — not in itself a bad decision at the time. However, the format option it used for the drive and the software implementation of the driver were unacceptably slow for most users. "Definitely the slowest," said Dave Nelson, president of Nuvo Labs and a tape software developer for a number of vendors.

The Art of the Possible

Holding on to a sure thing

"The first rule of wing-walking is never let go of what you have until you've got a good hold on something else." That's what Don Brown of CE Software told me the other day. I had asked Brown why he thinks we're still seeing impressive new and updated desk accessory programs even though Apple long ago proclaimed DAs an endangered species.

Take, for example, two DA programs from Preferred Publishers that I first noticed at January's Macworld Expo: DAtabase, a complete database in DA form, and Vantage, a clipboard editor and specialized word processor. Both are full-function applications rather than skeleton tools aimed merely at quick, simple uses.

Part of the answer to the question, of course, is the memory crunch. DAs tend to be more compact than their corresponding full-fledged application equivalents, and just about everybody is short of memory these days.

It's also the overhead. The added code needed to run MultiFinder is much higher than the system code needed to support a DA under the Apple menu, so even with a DA and application of equal size, the DA fits better. DAs are the low-memory way to get multiple applications.

Then there's the question of memory management. Right

now under MultiFinder, programs that are running can't be moved around in memory. If you open two programs and then close the first one, you often lose the use of its memory space.

Because the second program remains in the way, the vacated memory can't be combined with any other empty space in upper memory. As a result, you can run out of usable memory

even though you have plenty of idle chips. That doesn't happen with a DA. When you close a DA, its memory gets reclaimed.

Convenience is also a factor. DAs show up automatically in the Apple menu, so you don't need to navigate through the full file system hierarchy to find them. Once you find them, DAs tend to launch and close faster as well. As I've often touched on in this column, applications have to compete within a desktop and interface metaphor that in most cases is already overloaded.

To cite an example, user preference is what keeps the TOPS network control program a desk accessory, Robert Clark, TOPS' director of marketing told me. Despite

some pressure from Apple to make TOPS consistent with AppleShare, which is set up with a Chooser interface, or to make it an application, Clark said TOPS users have indicated that they like the DA arrangement better. So for now, at least, TOPS remains a DA.

In the end, everyone admits, Apple will get its way. According to developers, we can expect that system software releases will soon provide applications with the main advantages of DAs, such as allowing important applications to be installed under the Apple menu for easy access.

Apple has also publicly promised to provide better memory management, although that may be difficult on pre-Mac II machines that are not equipped with special memory management hardware. My personal guess is that Apple will have to solve the problem at some point by limiting its top system software to its top hardware platforms, much the way Microsoft did by limiting OS/2 to '286-based machines and better on the DOS side.

Once the need for DAs is supplanted, updates could turn those programs into regular applications. Then, at least two major system software revisions from now, when we're asked to let go of DAs we'll be able to grab hold of something else.



BY STEVE ROSENTHAL



Robert Marder, a Mac coordinator with Westinghouse Corp., said that one of the sites he supports uses an Apple drive to back up its server. "To this day I think they are sorry they bought it, because it takes much too long to back up."

WALTER P. CALAHAN

With Apple's tape strategy, you either have to format the tape before using it or pay extra for preformatted tape. Formatting an Apple tape can take 40 to 45 minutes; backing up a tape can take several hours. Tom Dobe, vice president and product evaluator for Jonathan's Computers chain of Marlton, N.J., who has benchmark tested more than 30 different tape drives for the microcomputer market, clocks the Apple drive at five to eight times slower than other drives on the market.

For many operations, such times are unacceptable. Robert Marder, a Mac coordinator with Westinghouse Corp., said that one of the sites he supports uses an Apple drive to back up its server. "To this day I think they are sorry they bought it because it takes much too long to back up," he said.

Even users who feel kinder toward their Apple drives express reservations. While Marty Young, Mac coordinator for Savannah River Laboratories in Aiken, S.C., pronounced the drives "OK," he admitted that the drives were slow. "Our users start the backup and they go home," he said. "Who cares if it takes four hours?"

Given all these factors, it is no wonder that tape has a bad reputation in the Mac market. The good news, however, is that plenty of alternatives with far superior performance exist. According to Zulch, companies like Archive and Irwin Magnetics have a long history of success with streaming tape devices such as Teac and DC600, which are popular on the IBM PC. And other vendors have created proprietary formats for the DC2000.

While tape as a magnetic medium is subject to degradation from bad storage — it shouldn't sit on top of your Mac, for example — actual data loss appears to be rare. According to Nelson, "I've never lost anything on a Teac tape, although people are afraid of them." Other tape formats are equally reliable. "In general, tape is far more reliable than magnetic disk," Zulch said.

An increasing number of tape drive suppliers include elaborate error-checking and correction firmware, but check the manufac-

turer's specifications carefully for this feature.

One theory about why tape has had less than spectacular success in the Mac market is that tapes are not attractive to Macintosh users because they are a backward-looking technology. "Tape caught on [in the PC market] when it had a price advantage," ComputerWare's van Atta said. "It no longer does. I think that tape is going to be history very soon." Accordingly, ComputerWare encourages, and its customers demand, duplicate hard drives or removable hard disk technology as alternatives.

Westinghouse has likewise shied away from quarter-inch tape and

With Apple's tape strategy, you have to format the tape before using it or pay extra for preformatted tape. Formatting an Apple tape can take 40 to 45 minutes; backing up a tape can take several hours.

tape cassettes, according to Marder. In large installations Westinghouse tends to use VAX host/servers for backup to nine-track tape. For small installations without servers, it is now trying hard disk cartridge backup.

Even at Savannah River, where Apple tape drives are being used regularly, Young is "personally recommending 45-Mbyte removable media for backup."

In a similar vein, Apple dealer Fortune Automation of Maryland Heights, Mo., which deals exclusively in publishing and graphic design, recommends Bernoulli drive backup instead of tape to its clients. At the higher end, according to Fortune manager Mark Carr, "we see a movement to nine-track tape" from clients

See TAPE, Page 30

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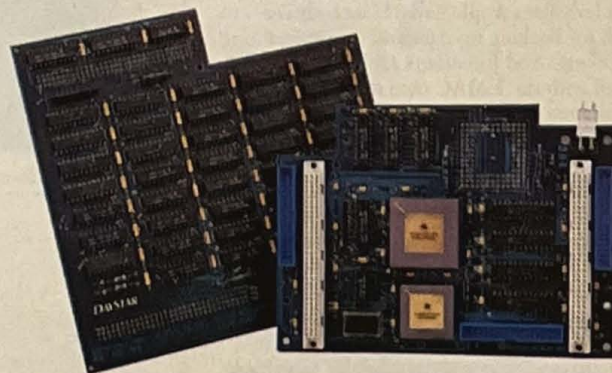
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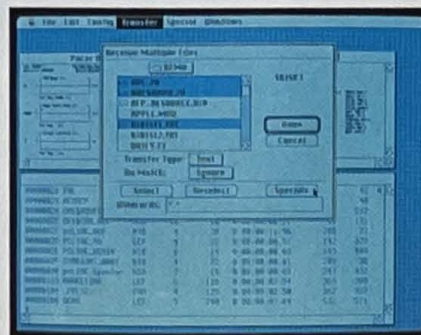
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Taping it to the VAX

Backing up data onto a VAX has proved an efficient solution for one work site.

By Steve Hannaford

Computer consultant Ed Otto has devised an unusual scenario for tape backup at the University of Illinois Printing Services office in Champaign. Otto supervises a combined Mac-PC office on an AppleTalk network. The network includes a Linotronic 300 that handles much of the typesetting and pre-



PacerLink's multiple file transfer feature allows several files to be easily designated for file transfer based on selected criteria. Using PacerLink, Otto wrote a script for the University of Illinois that remotely accesses Mac and PC hard disks, copies files across a network and initiates a VAX/VMS backup program.

press work for the university.

Otto's office recently bought a used Digital Equipment Corp. VAX 11/730 to act as the AppleShare server on the network. The total cost of the slightly obsolete, ready-to-run 11/730 with more than 400 Mbytes of disk



LINDA SARGENT

Computer consultant Ed Otto helped the University of Illinois Printing Services office with an unusual tape backup plan: "We back nine machines — PCs and Macs — several hundred megabytes of disk, to one magnetic tape on the VAX [11/730]," he said. "It's all done automatically over the AppleTalk network each night, when everyone is gone."

Tape

Continued from Page 28

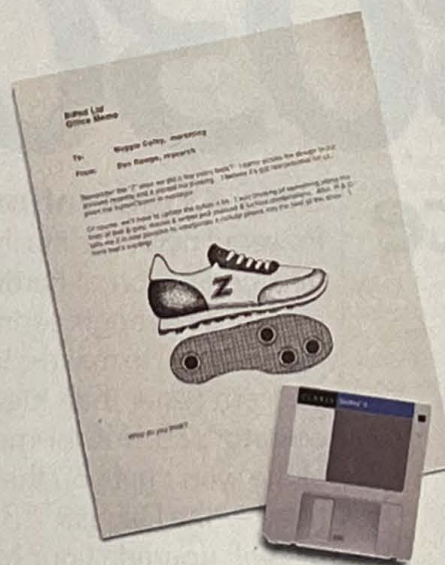
who have minicomputers that are networked to Mac workstations.

Despite the alternatives, there is still life in the tape market. At the Champaign-Urbana University of Illinois Mac site he coordinates, Roy Roper is replacing 10-Mbyte cartridge disk drives with Jasmine tape drives. United Technologies Space Flight Systems of Huntsville, Ala., regularly uses Apple and 3M tape drives both for backing up data and for project archiving. And Jonathan's Dobe is overjoyed with the EMAC tape drive he uses. "I run one of the largest computer bulletin boards on the East Coast," he said. "I back up 240 Mbytes every day and [have] never lost a file or a tape."

That kind of reaction has to be good news both to Nuvo's Nelson, who developed the software for Everex (among others), and eventually to Zulch, who, with his Retrospect program, hopes to create a new high-performance standard for a wide range of tape drives. Nelson insists that his tape backup programs are faster and more reliable than backing up onto hard disk cartridges. Zulch hopes to "standardize across all different tape platforms."

But with a large set of alternative backup technologies waiting in the wings, including digital audio tape (DAT) and erasable opticals, along with challenges from existing technologies like removable magnetic disks, tape vendors face an uphill battle in establishing a substantial position in the Mac backup market. □

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storage and a reel-to-reel tape drive, complete with software, was between \$6,000 and \$7,000.

"We back nine machines — PCs and Macs — several hundred megabytes of disk, to one magnetic tape on the VAX," said Otto. "It's all done automatically over the AppleTalk network each night, when everyone is gone."

Using PacerLink from Pacer Software of La Jolla, Calif., Otto has written a script that remotely accesses the Mac and PC hard disks, copies files across the network and kicks off a VAX/VMS backup program.

In the morning he unmounts the tape, and the backup is complete.

In addition, he has an AppleShare station with an enormous disk capacity, and he can run most VAX software. The university's service contract with General Electric costs \$180 per month, and GE promises four-hour on-site turnaround on any service call.

Garth Conboy, president of Pacer Software, said, "We have other users that back up data from workstations to the VAX. It's a hell of a lot easier than walking around from Mac to Mac with your Tecmar drive." □

Product Info

Apple

Apple Tape Backup 40SC: \$1,499
20525 Mariani Ave.
Cupertino, Calif. 95014
(408) 252-2775

Archive Corp.

MaxStream 60-Mbyte: \$1,395
MaxStream 150-Mbyte: \$2,095
1650 Sunflower Ave.
Costa Mesa, Calif. 92626

(714) 966-5589;
(800) 237-4929

EMAC

155-Mbyte Impact Tape: \$1,995
48431 Millmont Drive
Fremont, Calif. 94538
(415) 683-2222

FWB Inc.

HammerTape 150: \$1,895
HammerTape 300: \$2,695
2040 Polk St.
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GCC Technologies

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580 Winter St.
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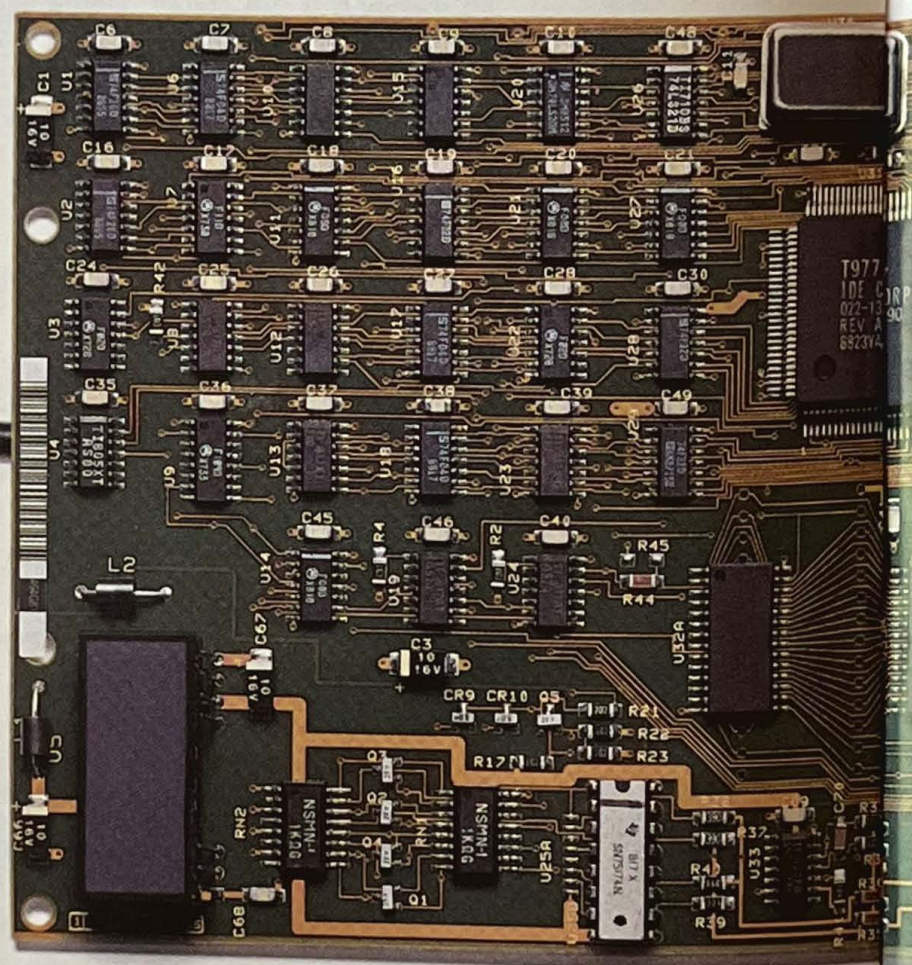


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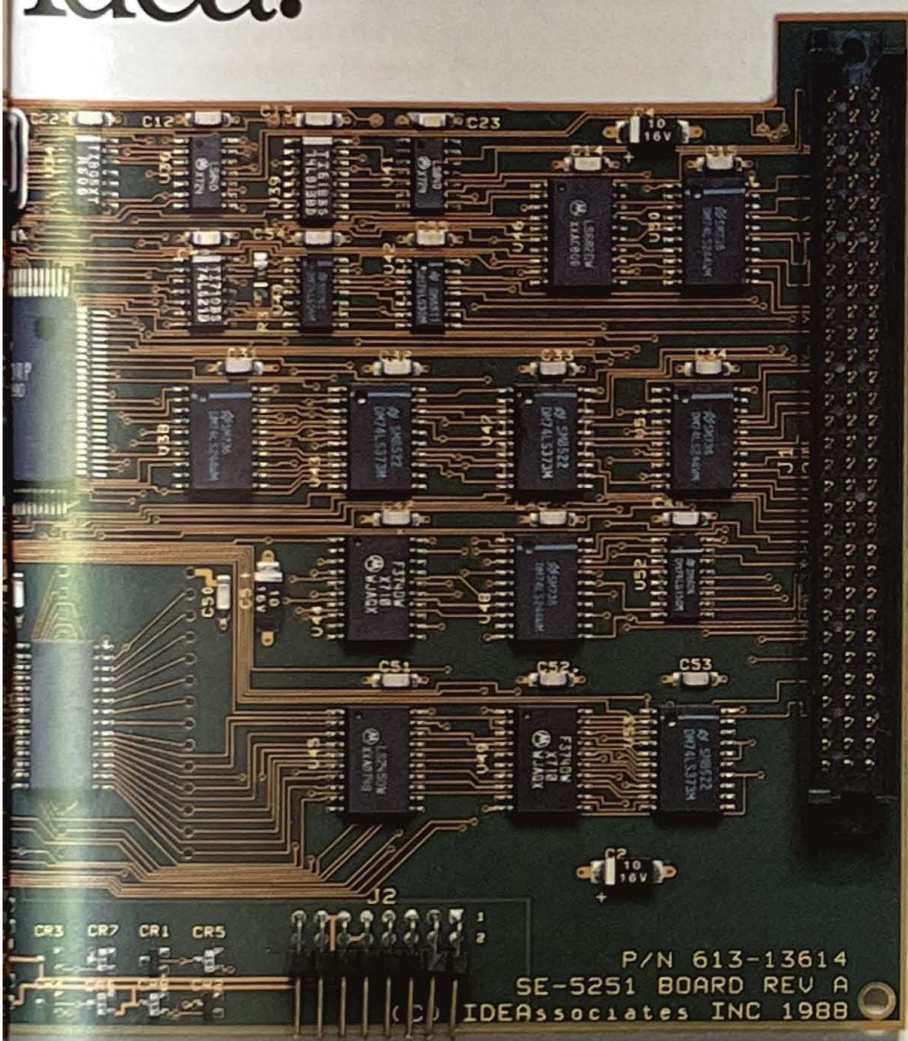
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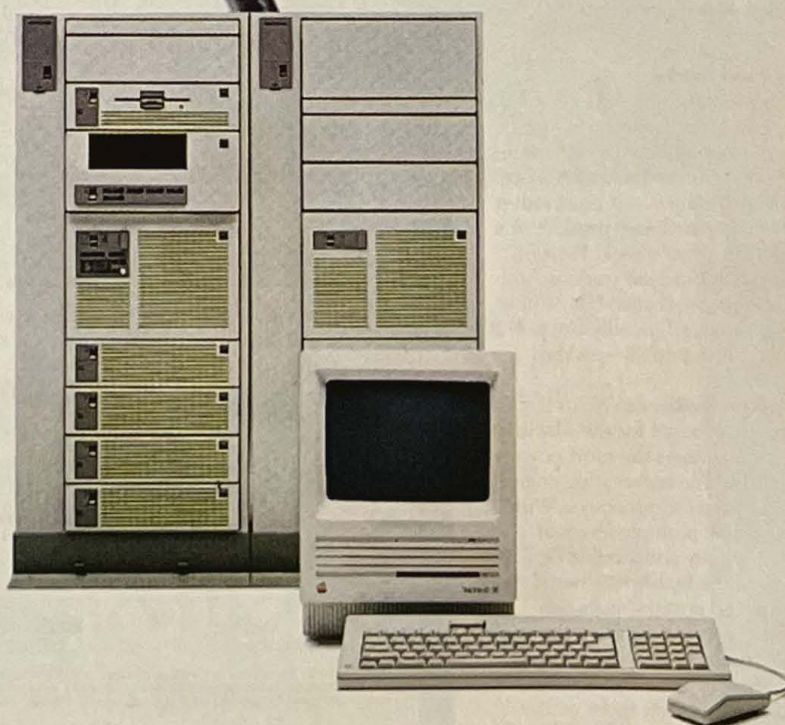
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Paragon program powerful, limited



Nisus 1.01

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List price: \$345 until March 31, \$395 thereafter; \$195 for registered QUES and QUES/M users.

✦ Outstanding text-editing and pattern-matching features; extensive, editable library; documents can be opened by any program.

✦ Poor keyboard cursor controls; no keyboard control of pull-down menus; no automatic footnoting- or hyphenation-control features; little support of color; sluggish screen refreshing; inadequate tutorial.

By Dennis Klatzkin

For a small company to enter the high-end Mac word processing arena — one dominated by industry giants Ashton-Tate, Microsoft and WordPerfect — it must either have an extraordinary product or a good measure of cheek. Paragon Concepts is busily at work on both of these prerequisites, but its new jewel, Nisus, will need more polishing before it really sparkles.

Power features. Nisus is a landmark product for the Macintosh and contains the most powerful and flexible text-editing engine of any Mac word processor. With features like multiple levels of Undo, 10 fully addressable clipboards and editable text-based macros, the upstart Nisus has already broken away from the pack. While its competitors revel in masquerading as page-layout programs, Nisus concentrates more on the fundamentals of word processing. But beyond the basics, in areas in which its rivals excel, like text formatting and user interface design, Nisus is rough around the edges.

Nisus has nearly all of the power features we expect in a high-end word processor: an integrated spelling checker; a thesaurus; odd and even headers and footers;

automatically generated indexes and tables of contents; user-defined text styles; abbreviation glossaries; and a staggering array of configurable user preferences.

The program contains a very capable object-oriented graphics module that allows you to wrap text around irregularly shaped objects (a de rigueur feature these days) as well as superimpose graphics on text. Some nice touches, like the ability to draw hairlines, define the radius of rounded corners, and group and ungroup objects and reorder their layering priority, add to the usefulness of this package.

The editing toolbox in Nisus is reminiscent of dedicated programmers' text editors, like Paragon's own QUES and QUES/M. Some features, like balancing parentheses or "zapping" control characters, are primarily of interest to programmers. But other features, like Nisus' ability to append to as well as replace its multiple clipboards, are also valuable to general users.

In addition to a conventional search-and-replace capability, the program offers two unique pattern matching modes (see sidebar, Page 40) that may well prove indispens-

able if you have to rearrange large amounts of text or perform complex searches.

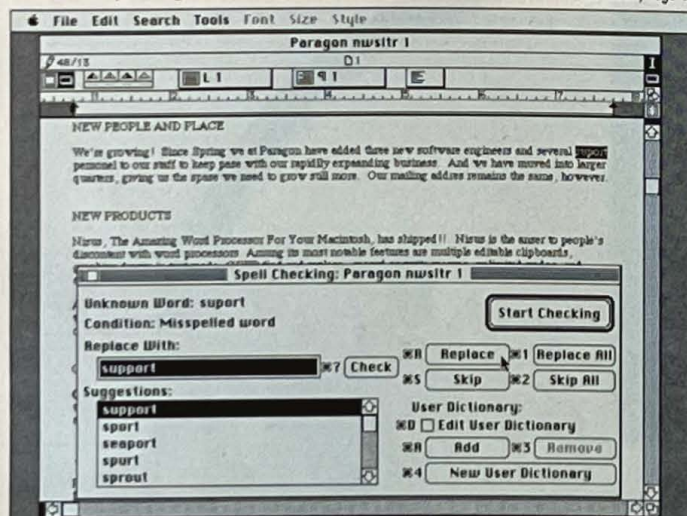
Nisus will run on a Mac Plus and up, with two 800-Kbyte floppy drives or a hard disk. It requires System Release 5 or later (System Release 6 is recommended) and a 1.2-Mbyte MultiFinder partition. The program's file format is especially clever and versatile. Any Mac application capable of reading a plain text file can open a Nisus document. Although the Nisus text styling won't be visible in Excel, Full Impact or FileMaker, for instance, you can use such programs to manipulate the file and then reopen it in Nisus with its original text formatting intact.

Under the macro scope.

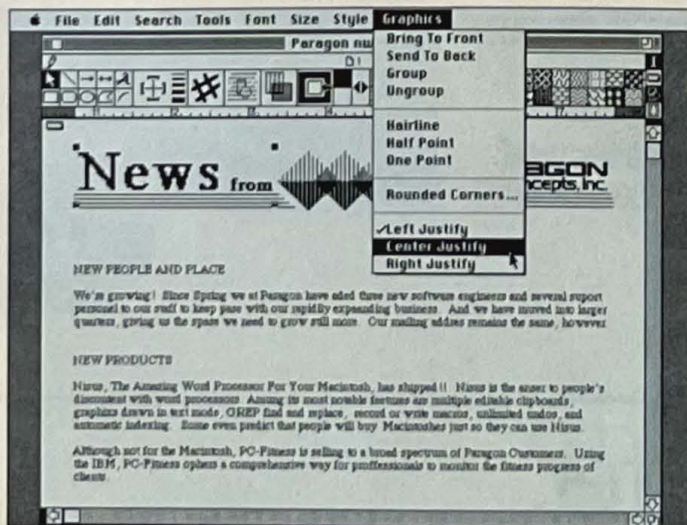
Nisus offers the most powerful, fully editable macros of any Mac word processor. Macros can be recorded automatically or entered as text directly in Nisus' complex but navigable macro language.

While macros can emulate all of Nisus' functions, they lack the richness of comparable macro languages in the high-end spreadsheet

See NISUS, Page 40

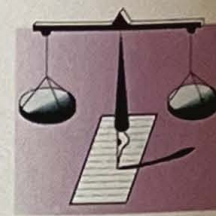


The spelling checker in Nisus offers all the best features found in most "batch" mode checkers, plus rapidly generated phonetic replacement suggestions for misspelled words.



Nisus' object-oriented graphics palette is a cluttered affair, but along with a small menu of options it offers all the drawing functions you're likely to need while word processing.

The Week in REVIEWS



Clip art spices up business documents

Most Macintosh clip art seems to be aimed at personal users and consists of low-resolution MacPaint-type images. Here are three packages of clip art that provide high-quality Encapsulated PostScript (EPS) format and tag image file format (TIFF) images for businesses at prices between 80 cents and \$1.50 a picture:

Metro ImageBase Electronic Art

This series of clip art collections features subjects ranging from food to people to computers. The Business Graphics, 9-5 and ReportMaker volumes will be of particular interest to business customers. Each volume contains 100 black-and-white TIFF images from Metro's library of newspaper clip art. While Metro is certainly a leader in the business, its images show their age; many are stylistically outdated and stereotypical. However, the volumes are relatively complete in scope, including many images not found elsewhere, and the TIFF provides high resolution. The drawback is that TIFF images take up a lot of space and come in a compressed format that must be "unstuffed" before use. Each volume costs \$145 and includes a printed image catalog and user guide. Metro ImageBase is located at 18623 Ventura Blvd., Suite 210, Tarzana, Calif. 91356; (818) 881-1997, (800) 525-1552.

Cliptures Business Images

Cliptures is a more modern series of clip art volumes than Metro ImageBase. Published by Dream Maker Software, it consists entirely of EPSF images, which can be imported by most page-layout programs and give top-quality output that's limited only by your printer's resolution. While these images won't work with QuickDraw printers such as Apple's ImageWriters and LaserWriter IISC, they will work with any PostScript printer. In addition, EPSF art can be customized if you have Illustrator or FreeHand, enabling you to use the clip art as a basis for more complex images. Each volume in the Cliptures series costs \$129.95 and comes with a printed index. The Business Images package includes people, office objects and more. The images in Cliptures are named for easy retrieval, while Metro's are numbered. Dream Maker is located at 4020 Paige St., Los Angeles, Calif. 90031; (213) 221-6436.

Image Club Art Room CD-ROM

Image Club's Art Room CD-ROM contains more than 1,200 images and about 100 downloadable laser fonts. It essentially contains all 24 volumes of Image Club's Digit-Art and HotType floppy-based libraries, as well as some utilities to help sort through the huge number of images. Image Club provides the pictures in two formats, Illustrator and PictureBase. If you have Adobe Illustrator, you can edit the Illustrator-format images any way you want, and the PictureBase format lets you search for and retrieve images via a desk accessory. The PictureBase program from Symmetry and ALSoft's Font/DA Juggler utility are bundled with the disk, providing a complete system for accessing the images and fonts. Image Club also provides a paper reference to the library, organized by topic. While Art Room is pricey at \$999, it has such a complete library of high-quality contemporary images, comparable in style to Dream Maker's, that you should consider it if you use a lot of clip art. You can also buy individual Digit-Art volumes on floppy disk for \$99 to \$149 each. Image Club bundles the CD-ROM with a Toshiba CD player for \$1,399, a reasonable deal if you are considering buying a CD-ROM player anyway. Image Club is at 2915-19th St. N.E., Suite 206, Calgary, Alberta, Canada T2E 7A2; (403) 250-1969. — By Becky Waring

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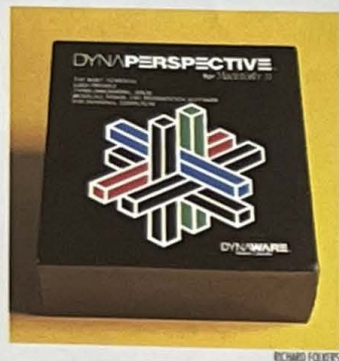
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Easy modeling in DynaPerspective

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DynaPerspective

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(415) 349-5700; (800) 444-3962

List price: \$1,495

- Elegant and powerful color 3-D modeling tools; unique semitransparent objects; animation features; self-calculating numeric entry alternative.
- Unusually high price; typical color renderings require 4 Mbytes of RAM; transparent objects have problems printing on color PostScript printers; no way to join walls automatically; only one light source.

By Elisabeth Vespremi

If you've traded in your Chevy for a Toyota and your Zenith for a Sony, you are probably ready for Dynaware's DynaPerspective, the first major piece of Japanese software to hit the Macintosh market. After two years' gestation as a best-selling architectural modeling and presentation program in Japan for MS-DOS machines, the Mac version arrived in the United States late last year.

DynaPerspective is a 3-D design and modeling package

rather than a construction tool. As the Mac market is awash with 3-D software, it's important to understand the difference between the two categories.

Take a typical situation: A developer has just acquired some land and has plans to put an office complex on the site. First, financing must be lined up and leases sold to potential renters. To do this the developer needs a conceptual design and a way to present it. A design and modeling program, such as DynaPerspective, enables architects to do a preliminary design and a realistic presentation in a short time. If the office complex idea must be modified for some reason, the developer can come up with another without having run up a large architectural bill.

Once the concept is approved and sold, the project can be presented and executed with a real construction program, such as AutoCAD, ArchiCad, VersaCAD or Mac Architrion. These packages are somewhat lacking in presentation features, but they can do the structural and working drawings, elevations and details necessary for actual construction.

Features in perspective.

The expression "ease of use" is seldom used as appropriately as it is when applied to DynaPerspective. The program is remarkably elegant. This quality is impressive, considering that DynaPerspective was ported from the IBM PC.

Upon opening the application, four windows appear, representing front, side, top and perspective views. (The first two are confusingly labeled "south" and "east.") Since all windows are active, you can create and edit objects in any window and even start your input in top view and finish in side view. All windows update in real time, so mistakes can be caught and corrected immediately. To make visualiza-

tion even easier, there is a blue grid in all views, representing the base line or zero elevation.

The tool palettes are similar to those found in other 3-D programs: line and polygon tools (in both two-dimensional and 3-D) and a selection of 10 primitive solids. For some reason, DynaPerspective offers two wall tools, one with zero clearance above ground and one with an option of starting the wall at a specified

See DYNAPERSPECTIVE, Page 38



DynaPerspective's depiction of colors as semitransparent, such as the glass walls in this interior view, is one of its most impressive features.

BigThesaurus is extensive, hefty, major

DA incorporates
1.4 million words

BigThesaurus

Deneba Software
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List price: \$99.95; \$15 for Coach Pro 3.0 users who purchased before Aug. 1, 1988; free for Coach Pro 3.0 users who purchased on or after Aug. 1, 1988.

- Large, flexible selection of definitions, synonyms, antonyms, compared and contrasted words; excellent use of color.
- Incompatible with FullWrite Professional; uses an INIT that may conflict with some others.

By Dale Coleman

Immediate access to large reference works is one of the continuing promises of desktop computing. Deneba's new BigThesaurus, a desk accessory containing more than 100,000 root words from Merriam-Webster's Collegiate Thesaurus, goes a long way toward fulfilling a part of that promise for any serious writer or editor. In addition to working with all major Macintosh word processors except Ashton-Tate's FullWrite Professional, it is compatible with the major page-layout applications and with HyperCard.

BigThesaurus is indeed big, with more than three times as many root words as some other electronic thesauri. Size has its price: Deneba states that a hard disk is required.

As the documentation warrants, more than 1.4 million synonyms, antonyms and related, compared and contrasted words are incorporated. The advantages of having such an extensive word tool as near as the Apple menu are quickly apparent. Word Finder, for example, offers 25 synonyms in four meaning groups for the word "comfortable," while BigThesaurus offers five definitions, 30 synonyms, 43 related words, 38 con-

trasted words, one comparison and five antonyms. (WordPerfect's thesaurus and even the Microsoft Bookshelf CD-ROM thesaurus also pale when compared with BigThesaurus.) While other electronic thesauri often send us to a traditional printed thesaurus for further reference, BigThesaurus' rich suite of suggestions frequently provides just the word we are looking for.

The interface. The BigThesaurus user interface is a model of flexibility with no sacrifice of simplicity. Windows are non-modal, so you can keep a window open while continuing to work on your document. Windows are also equipped with the standard zoom box and scroll bar. Successive windows are stacked as you continue a search via the lookup function; Option-clicking on any BigThesaurus window closes them all. Command-key equivalents for the lookup, replace and find commands are user-definable. The history of cross-referenced words is realistically unlimited; we gave up testing after 45 successive lookups.

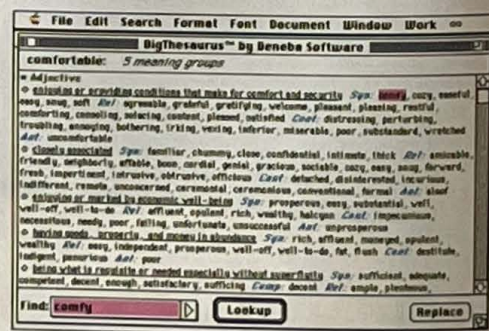
The window is organized in outline format — first by part of speech, then by meaning group, definition and synonym, and finally by related, compared and contrasted words and antonyms. This method of organization is extremely intuitive. Users with color displays will appreciate the program's ergonomic use of color.

You can replace words in your document with BigThesaurus' suggestions by using either the mouse or the keyboard, and the Preference command allows you to define your own Command-key equivalents. You can also control the display of definitions, antonyms, or contrasted and compared words and even change the text size.

We uncovered one bug in BigThesaurus. When the font size of a BigThesaurus window was changed, the zoom box in the window's title bar became inactive. When informed of the problem, Deneba supplied us a corrected version (1.0a) in 48 hours. If you experience this problem, contact Deneba for a free replacement. We have also experienced crashes that we relate to our extensive use of INIT (Startup documents), which may conflict with BigThesaurus' INIT, although we haven't yet been able to isolate the problems.

Documentation, support.

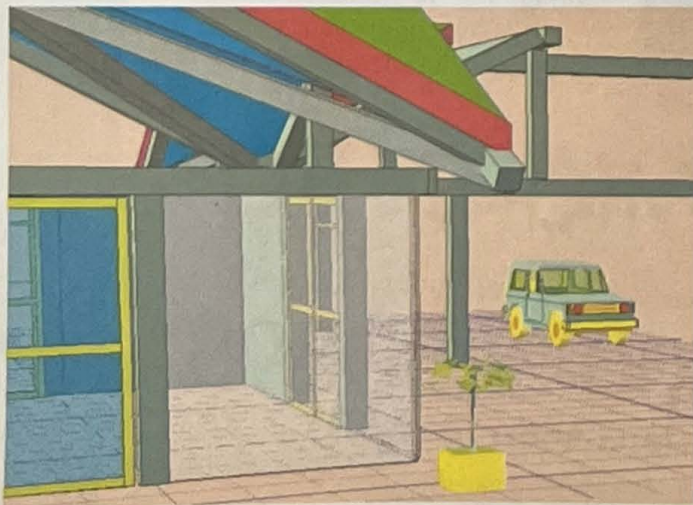
The 15-page manual is clearly written and logically organized. Nine helpful "user tips" are a nice touch. One complaint is that there is no reference to BigThesaurus' use



In addition to using color effectively to convey information, BigThesaurus windows are non-modal and incorporate standard Mac features such as a close box and zoom box.

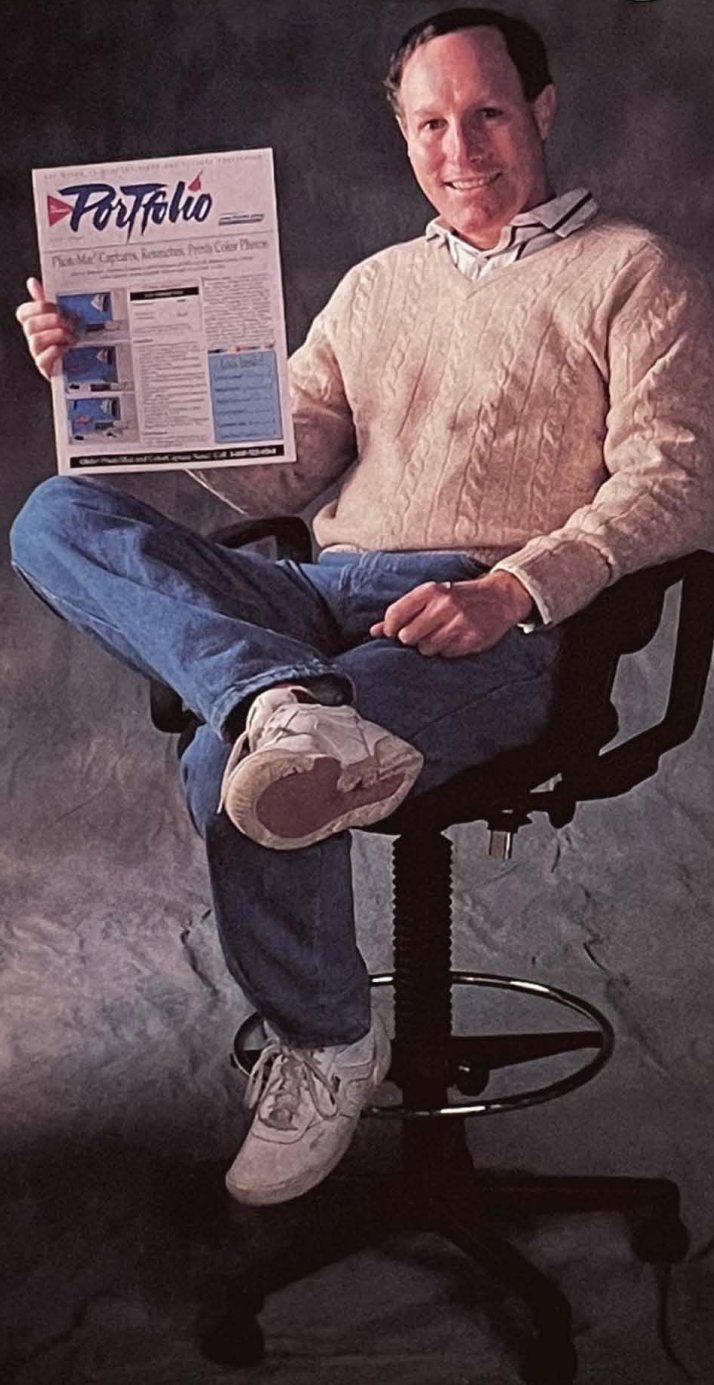
with utilities such as Fifth Generation Systems Inc.'s Suitcase or ALSoft Inc.'s Master Juggler. A second is that there is no mention of the incompatibility with FullWrite, although Deneba assured us that this omission would be corrected. Technical support via a toll-free number is free to registered users.

Conclusions. BigThesaurus is a major improvement over competing DA thesauri, whether integrated or stand-alone, and the price is right. No matter what thesaurus you're currently using, unless your only word tool is FullWrite Professional, you owe it to yourself to check out BigThesaurus. □



Every build is placed in DynaPerspective in relation to the blue perspective grid. The plant and car are library objects that can be resized and placed likewise.

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DynaPerspective

Continued from Page 36

height. Other tools include post, cylinder, curve, stair, and both tent and faceted roofs.

The tools look straightforward and simple, yet for all their simplicity DynaPerspective is far more powerful and sophisticated than other 3-D presentation packages. For example, objects can be defined with the keyboard as well as the mouse. A 12-by-8-foot wall can be drawn by hand or can be entered with x, y and z dimensions. The dialog boxes for numeric entries also

work as interactive calculators. You can enter formulas, and the program calculates on screen. DynaPerspective's simplicity can make you forget its more precise input capabilities. Fortunately, the well-written manual places great emphasis on these advanced features, so you can proceed from the intuitive uses to the more exact modes easily.

Objects in 3-D can be colored with the standard Mac II palette. Objects can be represented as wire frames or colored solids and can be shaded with a single con-

figurable light source. A color controller lets you edit colors on finished drawings. You can pick up the color of a wall, for example, and change its hue, saturation and luminescence with sliding controls.

DynaPerspective's real show-stopper is its ability to present colors as either opaque or semitransparent. For example, a semitransparent glass wall slightly tints and dims the objects behind it, creating the illusion of diffused light. This feature adds greater realism to renderings of buildings.

The viewpoint in the perspective window

is set via arrows on the window borders that rotate a wire frame box representing the objects. The view angle is set from the bottom with a simple fan-like representation: the wider the fan, the wider the angle.

DynaPerspective can also create fly-through animations of models. You choose frames and play them back at an adjustable speed of up to 26 frames per second. This feature is especially valuable for conceptualization and presentation.

Working in a glass house. According to Dynaware, DynaPerspective requires at least 2 Mbytes of RAM, and under MultiFinder you'll need at least 4 Mbytes. We ran DynaPerspective on a 2-Mbyte Mac, and it performed relatively quickly, gradually slowing as the number of objects increased. We were able to finish the rough frame of a house with windows and some objects.

When we asked for a shaded color rendering, however, we ran out of memory halfway through. We went back to the wire frame, eliminated half the house and tried again, but it still didn't make it. Finally, after reducing the number of objects to maybe three dozen, the program was able to finish rendering.

We therefore do not recommend DynaPerspective to users with less than 4 Mbytes of RAM. We hope that a future version will enable the rendering function to run on virtual memory (a function where memory is "borrowed" from available space on the hard disk), so those with only 2 Mbytes can fully utilize the program.

Another disappointment is that there is no way to join walls automatically. A manual function is provided, but you have to connect each wall individually.

The program can bring in PICT drawings via the Clipboard but has no other importing features. The company plans to add DXF file compatibility in the near future. The program can bring in objects from its own limited library, which contains an assortment of furniture, people and cars, among other items.

DynaPerspective can output your renderings to QuickDraw or PostScript color printers or to film or slide recorders. We did find one puzzling printing problem, however. Semitransparent objects print as solids when output to a color PostScript printer from within DynaPerspective. (We used the QMS ColorScript 100.) When the same objects were brought into some color paint applications through the Clipboard and then printed, they retained their transparency.

Conclusions. While DynaPerspective's architectural emphasis makes it less effective for general 3-D work, it offers more features and power with greater ease of use than competing applications. Its renderings, in particular the ones containing semitransparent objects, are the finest this side of ray-tracing. The tools are so well designed that it would take few additions to make DynaPerspective a real construction tool, a move we would be pleased to see.

DynaPerspective enters the 3-D modeling field at a time when several packages with smaller price tags are already crowding the market. Although it costs at least three times as much as the other packages (Silicon Beach's Super 3D 2.0 is \$495; Paracomp's Swivel 3D costs \$395; and Challenger's Mac 3D 2.1 weighs in at \$249), we found that for architects and CAD users the larger price tag for DynaPerspective is well justified. □

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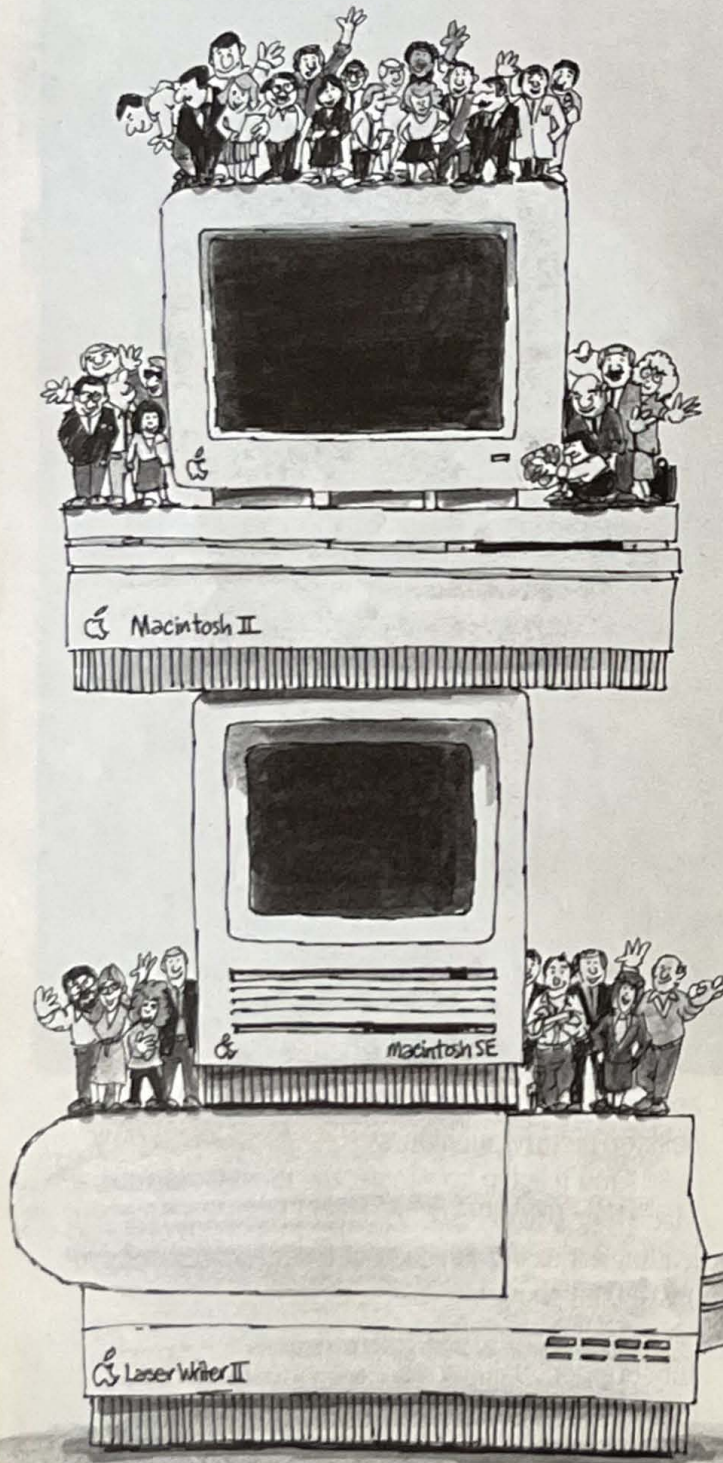
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programs. Still, Nisus' macros are powerful. In fact, some of Nisus' word processing features (like mail merge, smart quotes and widow/orphan control) are actually implemented using supplied macros. While this type of implementation allows users to fine-tune some features by editing their macros, it also means that you must always manually invoke the features. That is, there is no automatic, default widow/orphan control nor smart quote substitution.

This trade-off is typical of Nisus. The program offers an impressive range of power features but continually requires you to trade away convenience features taken for granted in FullWrite, Word and WordPerfect.

Perhaps the most notable of these is Nisus' poor range of keyboard controls. Of course the program supports the cursor keys, but it offers some strangely unintuitive cursor movements, such as Command-Option-Shift-Space Bar-Backspace to delete the word to the right of the insertion point. But there is no cursor control from the numeric keypad, nor keyboard control of pull-down menus.

Nisus does allow you to assign a keyboard shortcut to any menu item or macro but limits you to keyboard equivalents, using only the Command key (18 of which are already taken by the program's built-in menu shortcuts). A keyboard redefinition utility, like CE Software's QuicKeys, is an absolute must with Nisus and will mitigate, but not resolve, these unfortunate shortcomings.

There are some other major omissions in

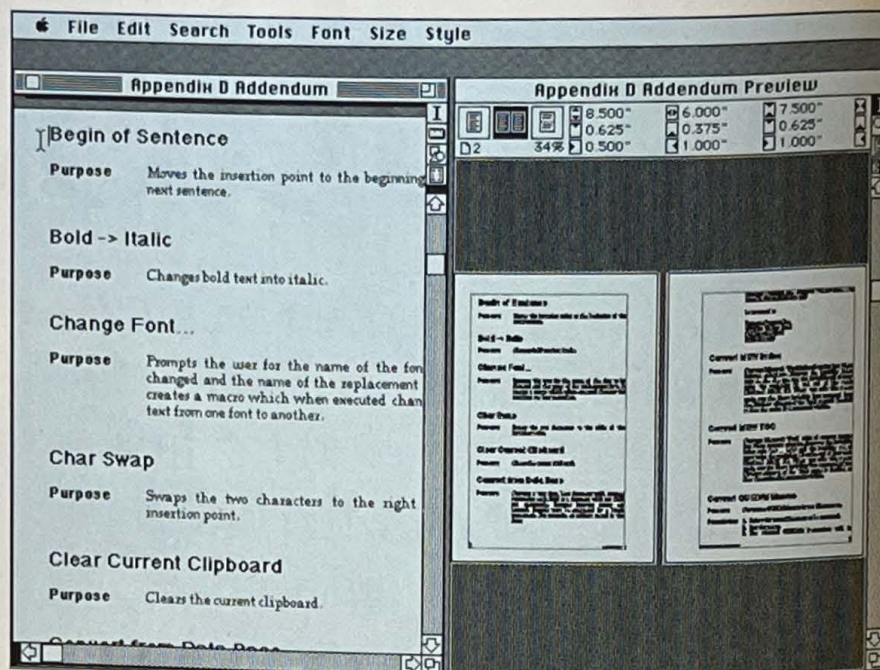
Nisus. It offers no automatic footnoting function, no support of color (other than for PICT or PICT2 graphics pasted in from the Clipboard), no provision for multiple sections or chapters and no hyphenation controls. There are no discretionary hyphens, no blocked or required hyphens and no automatic hyphenation. And Nisus can't even perform a line wrap on a user-hyphenated word.

As we reported in our preview of Nisus (see MacWEEK, Dec. 6), Paragon Concepts predicted a major upgrade during the first quarter of 1989 to remedy some of these omissions. But it now appears that any such release will be delayed until this summer, at the earliest.

Performance. Evaluating the speed and reliability of Nisus presents a mixed bag of results. Some of its features, like finding and replacing text, are impressively fast — faster than its competitors' corresponding features by entire orders of magnitude. The spelling checker, thesaurus, macro execution and printing perform well and contain a modest but useful range of options.

Other characteristics, such as screen refreshing and scrolling, are somewhat sluggish in comparison. On a Mac II, screen redrawing is adequate, but on an SE the screen can lag behind your typing to a distracting extent.

In our extensive tests of Nisus, it was generally reliable but not outstandingly robust. The program seems vulnerable to conflicts with the myriad of Startup documents (INITs) and Control Panel devices (cdevs) that are commonly used today. Paragon has



The somewhat confusing page-preview mode has a side-by-side option that lets you edit a document in one window and view a reduced version of the pages alongside it.

provided an addendum to the Nisus manual to explain work-arounds for some relatively minor quirks in the program's behavior.

Finally, some obscure but verifiable bugs in Nisus — primarily concerning the importation of Microsoft Word files and embedded graphics — have caused Paragon to begin offering a free Version 1.01 update to users who encounter these problems.

Documentation and support. The 347-page Nisus manual, containing both a tutorial and reference guide, comes in a tab-divided, three-ring binder. The 16-page tutorial is unacceptably meager and ineffective. But the reference section is quite complete, and although its printing, layout and illustrations aren't especially slick, it serves its purpose well. The manual also contains useful appendices, quick reference guides and a good index.

Novice users will find the advanced features sections — those for macros, GREP (global regular expression parser) and Easy-GREP — a rather harsh introduction to these complex topics. The manual assumes a base of knowledge that may not always be present and offers far too little in the way of illustrative examples and genial hand holding. There

will certainly be a market for training books if Nisus proves to be successful.

Nisus has a limited on-line help system that concentrates mostly on the program's more arcane features, like macros and pattern matching. Paragon Concepts offers unlimited technical support, which is available on toll-free lines. We found the expertise and responsiveness of the support staff to be outstanding.

Conclusions. Nisus is well worth your consideration, but it will demand your patience as it matures and Paragon Concepts addresses its weaknesses. And it does have a way to go in some areas. It's not an especially pretty program. The overstuffed graphics palette may offend you, and the cryptic page-preview mode may stupefy you.

But Nisus is truly a diamond in the rough. Quite simply, it does things that no other Mac word processor can do, despite its drawbacks. It can open new dimensions in word processing for you and save you countless hours and untold effort in the process. Even if you decide not to abandon your old word processor, we predict that you'll keep Nisus close at hand for those times when you need its special blend of powers. □

'Three on a match' with Nisus

Every Mac word processor and text editor, including Nisus, offers some variation of the conventional search-and-replace function that is sometimes referred to as "literal" matching. The level of search sophistication may vary, depending on embellishments like finding only whole word matches; restricting the search to identically matching capitalization; matching text attributes like font and style as well as text strings; and using a few metacharacters, or "wild cards."

Nisus has all these search features plus two other searching modes, GREP (global regular expression parser) and Easy-GREP, that perform their searches by means of pattern matching. Rather than offer just a few wild cards like most word processors, pattern matching in Nisus uses an extensive list of special metacharacters to precisely define and restrict a search to an exact pat-

tern of alphanumeric and other text strings.

For instance, the GREP formula `^..u's*.*d.d.d.d.d\(\s*^-\s*.*d.d.d.d.d\)-\s*^r` will find any occurrence of a two-letter state abbreviation that is followed by a five- or nine-digit ZIP code and ends with a carriage return.

GREP notation is extremely powerful but difficult to learn and use. Nisus' on-line help screens contain a summary of the metacharacters, but you'll certainly have to keep the manual open all the while. To make this functionality more accessible, Nisus' Easy-GREP searching mode offers a limited subset of the full GREP vocabulary in easy-to-use pull-down menus.

Pattern matching in Nisus is unique and tremendously useful. Not everyone needs such a level of power, but Nisus admirably fills this gap in Mac word processing. — *By Dennis Klotzkin*

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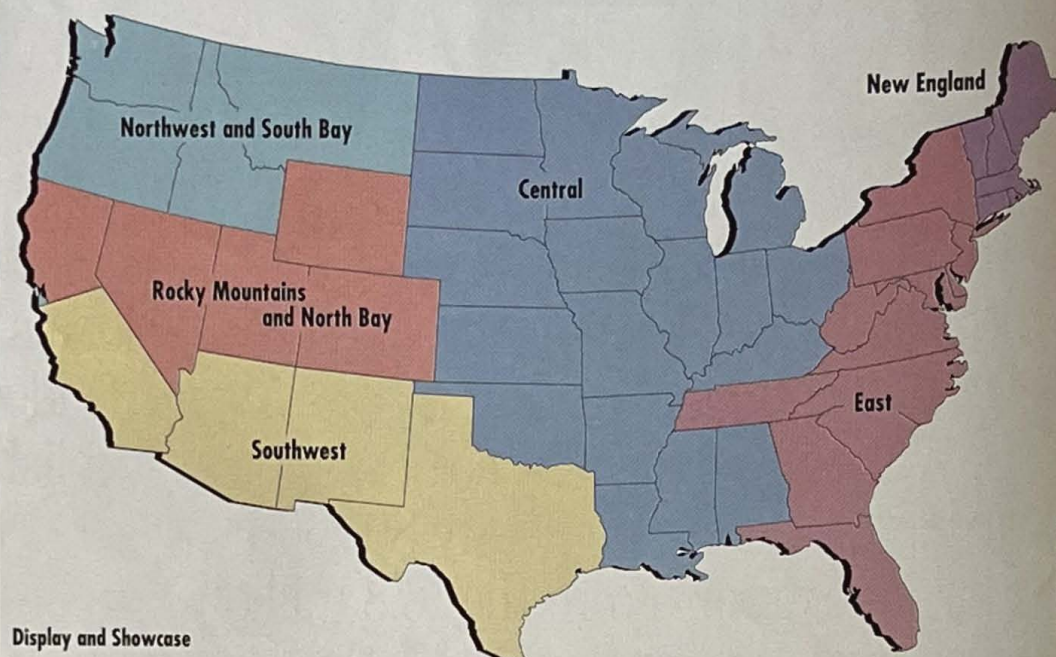
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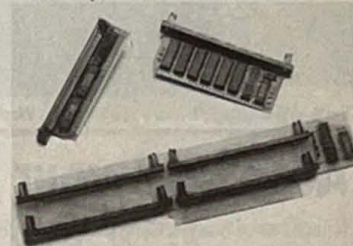
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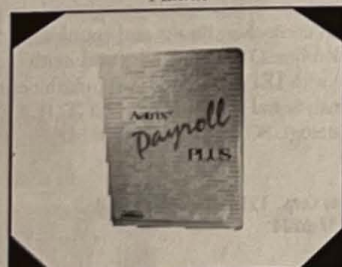
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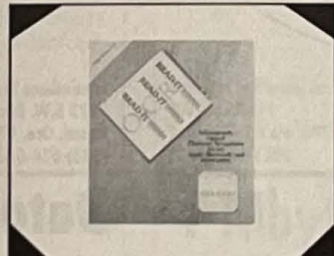


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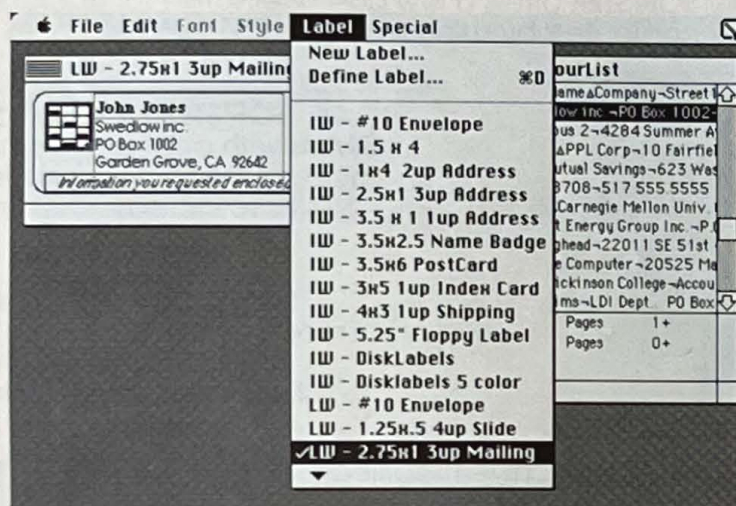
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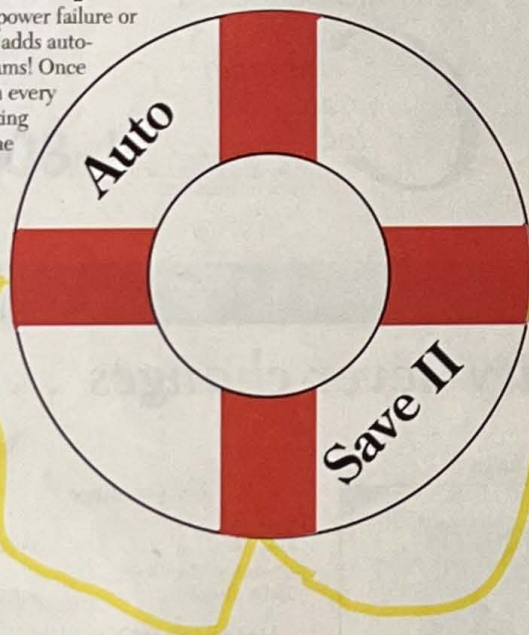
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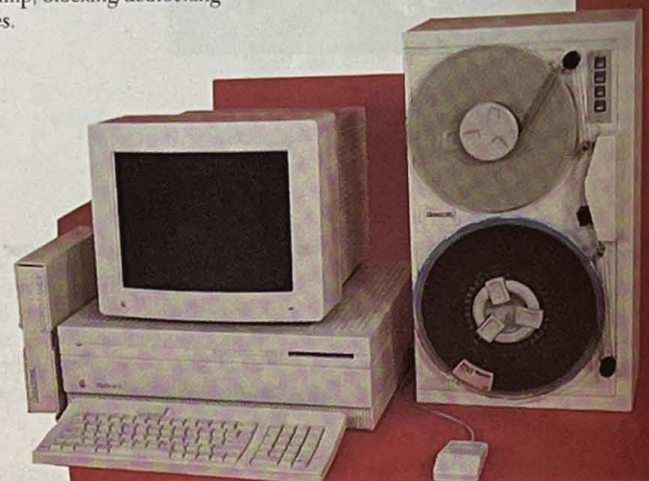


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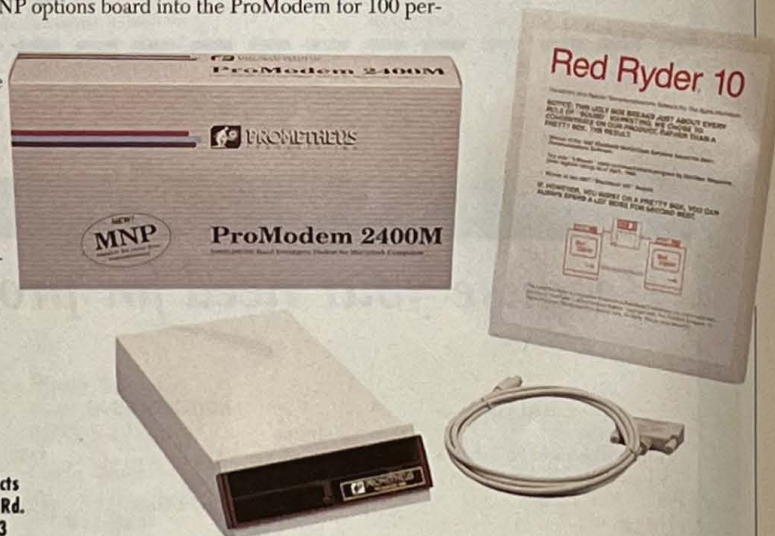
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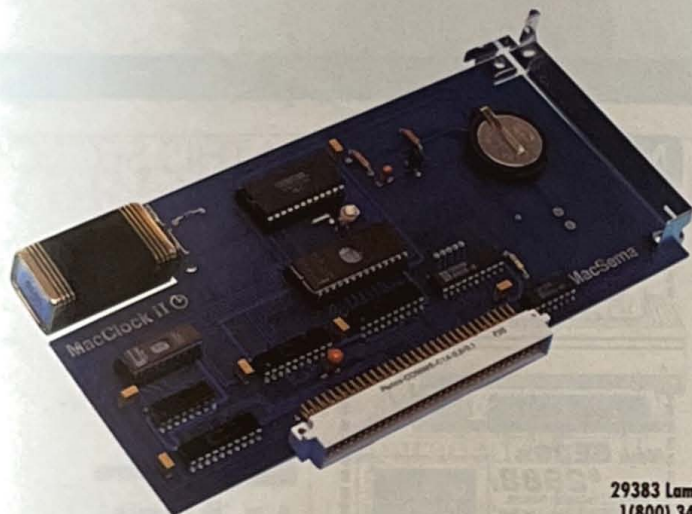
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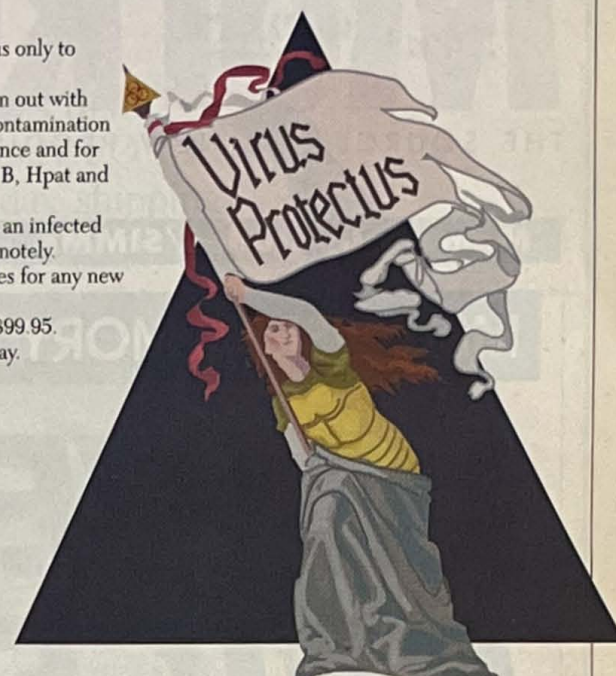
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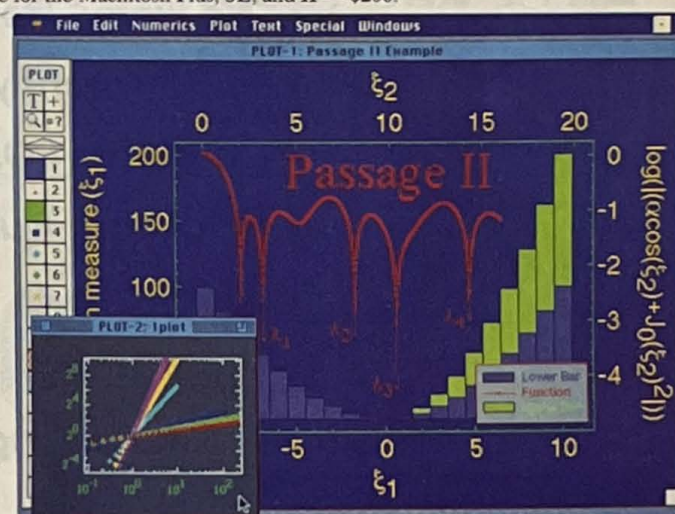
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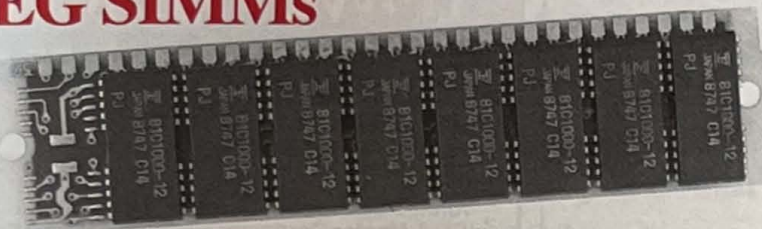
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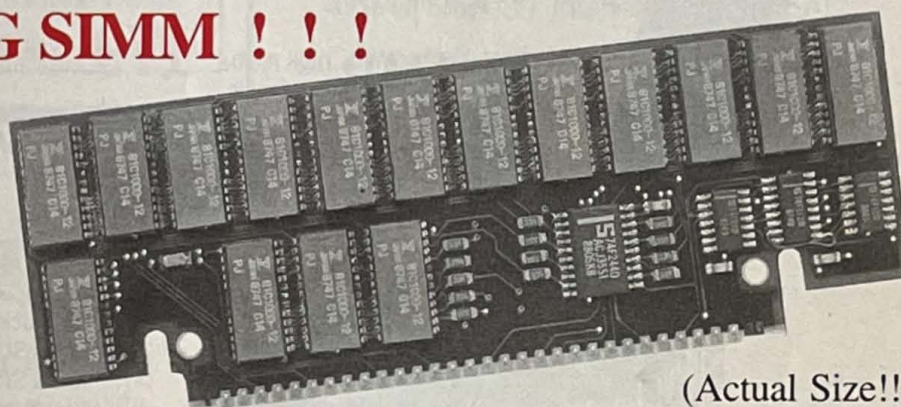
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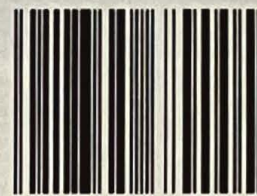


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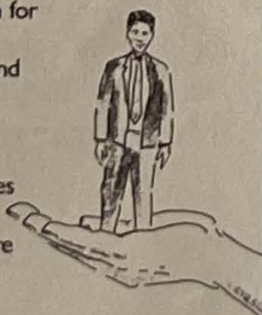
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STORAGE DIMENSIONS
A MAXTOR COMPANY



Cricket cuts staff, loses VP of engineering

By Connie Guglielmo

Malvern, Pa. — Cricket Software last week went through its second reorganization in recent months, announcing that it had laid off 11 employees and that Marty Fisher, the company's vice president of engineering, had resigned.

"The cuts are part of my continuing efforts to make the company solid and profitable in 1989," said Barry Borden, who took over as president and CEO of the graphics software developer in January.

The first reorganization took place in November, when the company laid off 23 people — about 20 percent of its staff — including Dennis McFerren, one of the authors of Cricket Draw.

Two months later, Barry Schuler resigned as president and CEO of the company after a 10-month stint, saying he wished to pursue other interests.

Borden dismissed speculation that Cricket is struggling financially, as well as industry rumors that the company is for sale. "Cricket is an attractive company and we are often approached by people," Borden said. "Our intention is to remain independent." □

AST abandons Mac, DEC divisions

By Connie Guglielmo

Irvine, Calif. — AST Research is giving up on the Macintosh market.

The company said it will sell both its Apple product line and its Camintonn division, which makes its TurboLaser printer and add-on products for Digital Equipment Corp. computer systems, to focus exclusively on the IBM PC compatible market.

The decision came after the company reported an \$8.9 million loss for the second quarter of fiscal 1989, which ended Dec. 30, 1988. The loss, attributed to increased competition in the market and higher component costs, prompted the company to cut its 2,025 member staff by 6 percent in January.

Sources close to AST said the sale of the Apple products division, which includes the NuView video digitizer and the Mac86 and Mac286 Mac-to-PC coprocessor boards, is imminent.

AST made headlines at the Macworld Expo in January when its NuView video capture card was used by Apple's John Sculley to demonstrate HyperTV, an interactive multimedia system using real-time video and driven by HyperCard. The \$2,599 card, bundled with AST's ReView image-processing software, is scheduled for release later this month. □

Symantec acquisitions mark success, growth

Publishing led foray into market

By Renee Mathews

Cupertino, Calif. — Symantec Corp. may have its roots in the IBM PC market, but the company's effort to become a major player in the Macintosh arena is off to a blooming start.

Even before the 1985 introduction of its first product, the highly successful Q&A file manager for the PC market, Symantec established the key principles of its business strategy: to promote the company through publishing, acquisitions and internal development and to listen to its customers.

The expansion program began with the creation of Symantec's Turner Hall Publishing Division, led by Executive Vice President Tom Byers. The unit's charter was to focus on a specific segment of the PC market. The group went on to fill a niche with Lotus 1-2-3 add-in products like Note-It and SQZ!

With the publishing unit in place, Symantec executives laid out the blueprints for what became the first of a series of critical acquisitions that moved the company into the Macintosh marketplace. "We tried to think ahead about the future of the industry and what the PC environment would be like in the '90s," said Gordon Eubanks, president and CEO. "One of the things that was clear was that the Mac had the best approach to the user interface and the best approach to the operating environment as a whole. We believed the Macintosh would lead the way into the '90s as the right approach to computing."

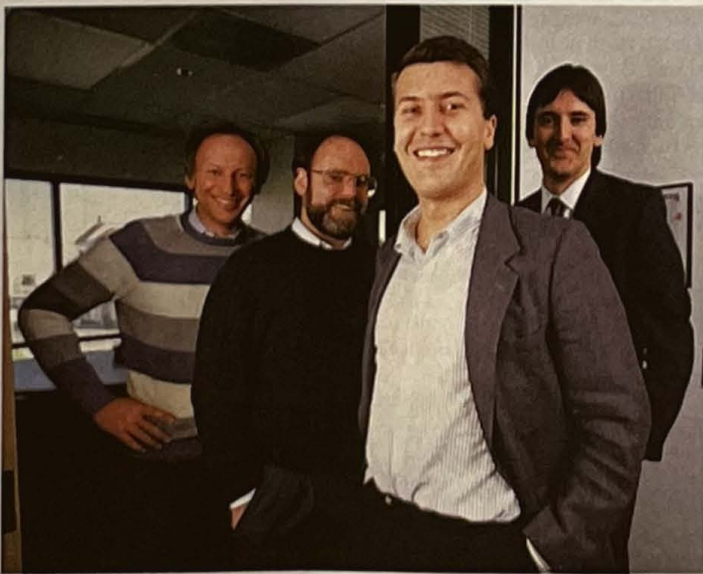
"We had little Macintosh experience," said Gary Hendrix, Symantec founder and vice president of advanced technology. "We knew we had to come up to speed by publishing or making a marriage to get the technology." Symantec made its vow to the Mac in 1987, when the company acquired two Macintosh developers. Living Videotext of Mountain View, Calif., brought with it MORE and ThinkTank; and THINK Technologies of Bedford, Mass., brought the LightspeedC and Lightspeed Pascal languages and the InBox electronic-mail program. (Symantec last October sold InBox to TOPS, a division of Sun Microsystems.)

In 1987, Symantec also merged with Breakthrough Software of Novato, Calif., adding Time Line, a PC project management program. And last year the company licensed a set of Mac disk utilities from

See SYMANTEC, Page 56

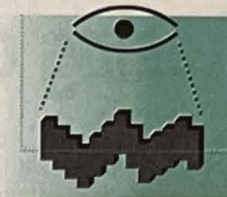
SYMANTEC

Company name:	Symantec Corp.
Founded:	March 1982
President & CEO:	Gordon E. Eubanks Jr.
1988 revenues:	\$35 million
Macintosh products:	MORE II, Symantec Utilities for Macintosh (SUM), Think's Lightspeed C, Think's Lightspeed Pascal, Just Enough Pascal, Macintosh Pascal
Headquarters:	Cupertino, Calif.
Employees:	250 in 11 locations
Motto:	"Trust the customer"



(Left to right) Symantec executives Gary Hendrix, Gordon Eubanks, Rod Turner and Tom Byers. "We believed the Mac would lead the way into the '90s," Eubanks said.

Business BRIEFS



Egghead gets new head

Issaquah, Wash. — Egghead Discount Software announced last month that its founder and chief spokesman, Victor Alhadeff, has stepped aside as CEO of the 188-store retail chain. Stuart Sloan, an early director and investor in Egghead, will take over as president and CEO.

Sloan is and will remain chairman of Quality Food Centers, a Seattle-based supermarket chain. Under a four-year agreement with Egghead, he will draw an annual salary of \$1 but will receive options to acquire up to 900,000 shares in the company.

Egghead also appointed new executive vice presidents of merchandising and of corporate development. Alhadeff will "maintain an active management role" as chairman, the company said.

Egghead, which went public last June, has seen its stock sag recently, despite rapid growth in sales and earnings. Analysts cite a slowdown in the growth of the software market, as well as concern on Wall Street in the wake of last year's disclosures that Alhadeff is facing several lawsuits alleging securities fraud and misrepresentation in previous dealings in the oil and gas business.

Apple recruits executives with NeXT ties

Cupertino, Calif. — In an attempt to reverse its executive exodus while strengthening its position in the education market, Apple has recruited a high-ranking NeXT executive and a Stanford University educator with NeXT ties.

Last month Apple lured Burt Cummings, former manager of sales operations at NeXT Inc. of Palo Alto, Calif., to head up higher-education sales and marketing effective March 1.

Apple also enticed Michael Carter, former director of systems development for academic information research at Stanford University of Stanford, Calif., to come aboard as director of education research for the Advanced Technology Group. Carter was a member of NeXT's academic advisory board.

Cummings, who joined NeXT in 1987 after spending nearly eight years at Apple as manager of higher-education sales, returns to fill a vacancy created late last year when Bud Colligan left Apple to become CEO of Authorware Inc. of Minneapolis.

Returning to Apple, Cummings said, was an opportunity he "couldn't resist." In his new post, Cummings will direct sales and marketing programs for Apple products in higher education.

He will report to Bernard Gifford, another recent recruit, now the company's first vice president of education. Gifford officially joined Apple on Feb. 2 after resigning as dean of the Graduate School of Education at the University of California, Berkeley.

According to an Apple spokeswoman, Carter will be responsible for exploring ways in which technology can be adapted for the education process.

Developers meet to form PostScript standards

Farmington Hills, Mich. — A committee of developers formed to define a standard for PostScript will meet during Seybold Seminars '89 this month.

Organized by Frank Lee, chairman of Desktop Publishing Solutions Inc., the meeting of developers will be held March 13 in San Francisco. DPS provides compatibility testing and certification of PostScript clone interpreters.

Another new group, the SPS Association, recently began meeting to seek standards for PostScript extensions.

Desktop Publishing Solutions Inc. is located at 37911 W. Twelve Mile Road, Farmington Hills, Mich. 48333; (313) 489-8868.

Rosing outlines Sun's strategy

By Daniel Farber

Mountain View, Calif. — In its seven years of existence, Sun Microsystems has carved out a large piece of the Unix-based technical workstation universe with about 125,000 machines in use and just over \$1 billion dollars in revenues in its 1988 fiscal year.

It has been widely rumored that Sun will go after the Mac, armed with a high-performance, low-cost machine that uses a SPARC (Scalable Processor ARChitecture) chip. SPARC is Sun's entry into the reduced instruction set computing (RISC) microprocessor field.

The apprehension triggered by the thought of an assault by Sun, however, may be unjustified.

In a recent interview with MacWEEK, Wayne Rosing, Sun Entry Systems Group vice president, dispelled the myth of the so-called "SPARCintosh" and elaborated on Sun's plans for the near future. Rosing, who was instrumental in developing the SPARC chip, also has an intimate knowledge of Apple and its technology. Before moving to Sun, he played a key role at Apple as the leader of the Lisa development group.

MacWEEK: Is there any truth to the rumor that Sun is developing a SPARC-based machine that targets the Mac SE?

Rosing: I coined the term SPARCintosh, but there is no such machine. I said that with the SPARC architecture a computer can be built from a SPARCintosh to a SPARCinCray. You could certainly design a Mac SE-type machine with SPARC, but what about software? You have to have volumes of software to succeed. If we wanted to build such a machine, it would be a virtually impossible task [to develop the software base], and risky at best.

MacWEEK: If Sun is staying out of the personal computer market, how would you describe Sun's strategic direction?

Rosing: Personal computers



Wayne Rosing is an Apple alumnus who heads Sun Microsystems' Entry Systems Group, which includes machines like the Sun386i and the TOPS product line.

are encroaching on our space if you view our space as the 4 to 5 mips (millions of instructions per second) niche in the \$10,000 to \$20,000 price range for desktop computers. But we are moving from the 4-to-10-mips range to 20-mips range and an average selling price in the teens and above.

Basically, we are swimming in the systems pond, not the mainstream personal computer pond like Apple.

Sun has two roles: providing workstations and backbone computers with more graphics for highly technical professionals, and file and computer-serving capabilities at the midrange systems level, which is our biggest growth area.

I don't foresee any change in that phenomenon in the next year.

MacWEEK: How would you characterize price/performance for the lower-cost SPARC machines in the coming years?

Rosing: The general characteristics in calendar 1989 for SPARC machines will be in the \$1,000 per mips range for desktop workstations in the \$10,000 price category. We'll also see SPARC machines running at better than 40 mips.

By late 1990, the technology will permit us to build 10-mips

machines for \$5,000 to \$6,000.

MacWEEK: Just how important are mips when selling computers to users?

Rosing: In a real networked environment — meaning Ethernet, for example, not AppleTalk — with a multiprocessing operating system and graphical user interface, you need an enormous amount of computing power.

In addition, Sun is aimed at a flat distributed model in which services, data and computation are shared. The price for the distributed world, again, is a lot of computing power, and that fact was the motivator for the SPARC.

MacWEEK: Do you see products from Sun overlapping with high-end systems from Apple?

Rosing: We will continue to expand the top and bottom of our line and encroach on Apple, just as it encroaches on us. As we drive SPARC machines lower in cost with added performance, we'll definitely have applicability in areas traditionally thought of as the domain of the Mac II. For now, we rarely run into the Mac II in Unix procurement.

MacWEEK: What about CISC (complex instructions set computers)-based computers such as those based on the 68030 or 80386, like the Sun386i? Are they running out of steam?

Rosing: CISC-based machines are running out of gas and can't keep up with the performance needs of the marketplace. That's why every semiconductor company has a RISC offering, unlike two years ago.

MacWEEK: Looking back on your years at Apple, what comes to mind?

Rosing: The great irony of my career is that I worked so hard to build the Lisa. It was a hassle because it was slow and needed a hard disk and memory. But to this day you won't be able to find applications as well-integrated in a machine as those on the Lisa. Apple is still trying to rebuild what the Lisa had. □

Apple to pass Compaq in Fortune 1,000 sites

Big Blue's share still dwarfs Apple's

By Henry Norris

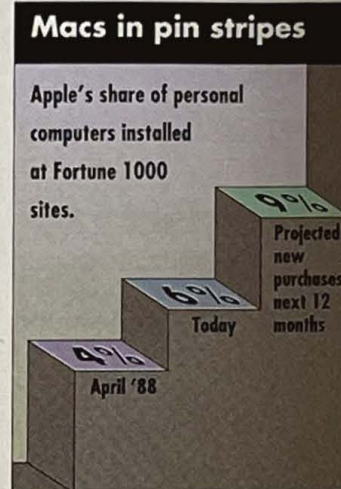
La Jolla, Calif. — Only 6 percent of the personal computers installed at Fortune 1,000 sites come from Apple, but the company's share is rising steadily, according to a study released last week by Computer Intelligence.

As recently as April 1988, Apple equipment represented only 4 percent of installed personal computers. Capturing an additional 2 percent is significant, the report said, considering the huge base of installed PCs.

The trend is expected to continue in 1989, according to Computer Intelligence, a market research company owned by Ziff-Davis. Apple systems will account for some 9 percent of the personal computers acquired by Fortune 1,000 sites over the next 12 months, the report predicts.

But Apple's share of the corporate market is still dwarfed by IBM's. About 65 percent of currently installed personal computers come from Big Blue, with Compaq Computer Corp. in second place at 7 percent.

The report says that IBM can expect 60 percent of new sales over the next year, but Apple's growth should move it ahead of



Compaq as runner-up in the PC sweepstakes.

The study encompassed more than 10,000 sites affiliated with Fortune 1,000 companies. About 20 percent of these installations had at least one Apple computer, in most cases a Mac. Only Compaq, at 30 percent, and IBM, with a phenomenal 89 percent penetration, were represented at more of the sites.

The Mac was "long considered the Rodney Dangerfield of business computers" because it "got no respect" from the vast majority of corporate PC buyers," according to the report, but it now appears that "Apple may have the last laugh." □

Microsoft begins major promotional drive

Redmond, Wash. — Microsoft Corp. last week launched a multi-million dollar promotional campaign that will put special demonstration stations in dealer showrooms and offer customers and sales representatives thousands of dollars in cash and credit prizes.

The "Power. Time. Money. 'I Want It All' Sweepstakes" will award more than 1,000 prizes to consumers, including a \$50,000 grand prize and a \$20,000 "dream computer system." Local retail sales representatives are eligible for identical prizes. In addition, two \$1,000 shopping sprees will be awarded to customers at each participating retail outlet.

The demonstration stations will feature self-running demos of Microsoft applications for the Mac and for IBM PCs, PS/2s and compatibles. The software giant will also offer dealers a display case with room for up to 40 copies of the company's products. In addition, Microsoft will join dealers in co-sponsoring seminars on Excel and direct-mail campaigns on any of six product groups.

Scott Oki, senior vice president of U.S. sales and marketing for Microsoft, called the campaign, which runs until April 1, "the most comprehensive set of programs ever launched by a software manufacturer." □

Top 20 Macintosh Software Shipments

Software shipped to microcomputer specialty stores, ranked by dollars paid to manufacturers or distributors.

Rank qtr. ending 11/88	Rank qtr. ending 10/88	Software	Company
1	1	PageMaker	Aldus
2	2	Word	Microsoft
3	3	Works	Microsoft
4	4	Excel	Microsoft
5	5	TOPS	TOPS/Sun Microsystems
6	6	MacDraw II	Claris
7	12	AppleShare	Apple
8	7	MacProject II	Claris
9	9	PowerPoint	Microsoft
10	8	Illustrator 88	Adobe
11	10	WordPerfect	WordPerfect
12	11	QuarkXPress	Quark
13	20	OmniPage	Coero
14	13	MacWrite	Claris
15	15	FileMaker II	Claris
16	17	Publish Pac	Dest
17	-	Managing Your Money	Meca
18	-	MacDraw	Claris
19	-	Cricket Presents...	Cricket
20	-	MacTerminal	Apple

Source: Computer Markets Division of IMS America, a Plymouth Meeting, Pa., market research company.



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Symantec

Continued from Page 53

Miro analyst Inc. of Austin, Texas. Now marketed as SUM (Symantec Utilities for the Macintosh), the product is a best-seller on the utilities market.

But the acquisition of three individual companies and the existence of the separate Turner Hall operation no doubt caused confusion among dealers and customers over Symantec's identity. To help clarify the corporate identity, all Symantec products have undergone a face lift during the past year to provide a more unified look.

Instead of drawing its employees under one roof, however, Symantec made a commitment to its employees to maintain their product lines from existing locations.

"It's a disadvantage to be spread out, but the alternative is worse," said Eubanks. "We've made a commitment to our people not to move because it's the people that make the company."

To maintain consistency within the product lines, the company adopted a philosophy of organizing internally around products instead of functions. "Product teams" are responsible for their own development, product marketing, technical support, quality assurance and documentation.

The teams report to Byers or Rod Turner, executive vice president, who are charged with expanding individual product lines. Symantec executives agreed this strategy is an advantage, particularly in acquisition situations because

the "team" is already in place.

With more than a year behind it since completing its latest acquisitions, Symantec has almost doubled its revenues to about \$35 million in 1988, based on nearly the same set of products. "That isn't growth from acquisition," said Robert Dykes, vice president of finance and operations. "That's growth from products."

While the company declined to provide information on sales of individual products, corporate officials said that a significant and growing percentage of total sales is from Macintosh products.

Symantec's growth is also reflected in the number of employees, which doubled to approximately 250 during the last year. The company is searching for larger facilities

that will support further expansion but said it intends to stay within the Santa Clara, Calif., area.

The first year also saw the departure of several key executives, including David Winer, founder of Living Videotext; Andrew Singer, co-founder of THINK Technologies; Spencer Leyton, vice president of business development; and Peter Winer, vice president of product development and lead programmer on the MORE II development team.

Eubanks noted, however, that the loss of key personnel is to be expected in a company of Symantec's size, and that overall the company's turnover is much lower than at other major software houses. "Peter Winer is the only programmer we've lost; we've retained

almost every single developer [who joined the company through the acquisitions]. And of the five companies that comprise Symantec, three of the five founders are still with us," said Eubanks. "We've had more turnover in our Q&A development team than in any of the teams we've acquired."

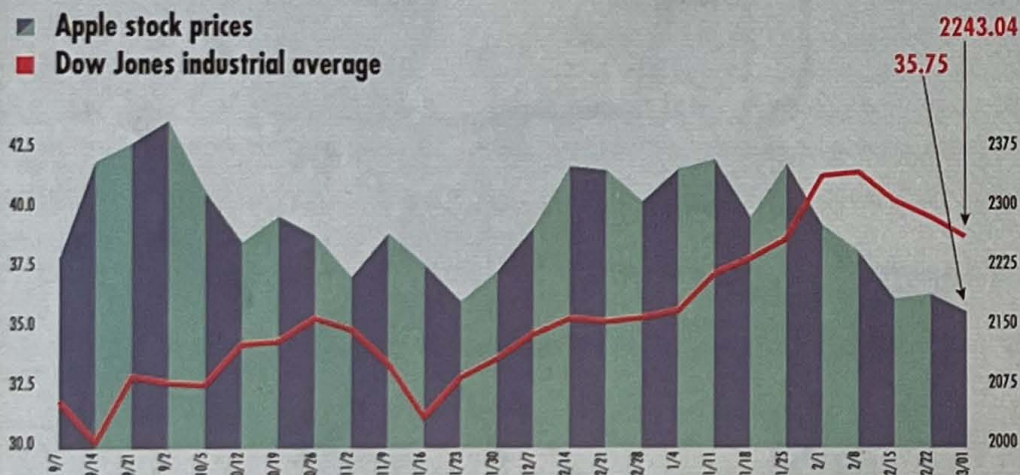
In the future the company plans to develop products that will be operable across multiple platforms, Eubanks said, adding that computing in the '90s will be based on multiplatform networks.

Despite rumors last summer of an initial public offering, Symantec is still privately held. Dykes said that while Symantec has no immediate plans for going public, it would be a logical move at some future date. □

Marketweek

STOCKWATCH

■ Apple stock prices
■ Dow Jones industrial average



Apple shares mimic Wall Street; Sun stock plummets after deal with AT&T

Bearish investors resumed their cool posture toward Apple during the trading week ending March 1.

Once again, Apple's shares flirted with the 52-week low of \$35.25, closing 50 cents above that level. For the week, Apple tumbled 2.72 percent to \$35.75.

The fall paralleled Wall Street's performance: The market posted its worst weekly decline since August of last year.

Other stocks closing lower last week include Seagate, down 5.51 percent, and Sun Microsystems, down 7.31 percent due to news that it has agreed to sell 3.2 mil-

lion newly issued common shares — or 4 percent of the total outstanding shares — to AT&T. The transaction boosts AT&T's stake in Sun to about 13 percent.

In contrast, 3COM jumped 3.29 percent after Knoll Capital received added financing for its \$14-a-share 3Com buy-out offer.

Macintosh-related stocks

		CLOSING PRICE 2/23/89	CLOSING PRICE 3/1/89	PERMANENT CHANGE IN PERIOD	P/E RATIO	ANNUAL HIGH	ANNUAL LOW
MAC-RELATED COMPANIES	Adobe Systems	20.00	20.25	1.25	21	26.00	14.13
	Aldus Corp.	21.00	21.25	1.19	22	24.50	15.00
	Apple	36.75	35.75	-2.72	11	47.75	35.25
	Ashton-Tate	22.75	21.50	-5.49	12	31.25	20.00
	Businessland	12.50	12.75	2.00	13	15.25	8.00
	Microsoft Corp.	60.00	59.25	-1.25	22	70.50	45.25
	Motorola Corp.	42.75	42.00	-1.75	12	54.63	35.88
	QMS Inc.	8.38	8.38	0.00	0	12.25	6.00
	Seagate	11.25	10.63	-5.51	0	23.38	6.50
	3COM Corp.	26.75	27.63	3.29	26	28.00	15.63
INDUSTRY INDICATORS	Digital Equipment	113.63	110.13	-3.08	12	125.88	86.38
	IBM	123.50	119.63	-3.13	12	130.88	104.50
	Sun Microsystems	18.88	17.50	-7.31	18	21.13	13.00

S—Reflects stock split

D—Deficit

Compiled by Nixley International Inc., Boulder, Colo.

MARKETWATCH

The four big benefits of networking

Four networking benefits stand out as most important at the 269 very large Macintosh sites recently polled by MacWEEK. Subscribers who personally have purchase influence for networking products at those sites said that the most important advantages were sharing of peripherals, ability to send files to others, user access to databases, and electronic mail.

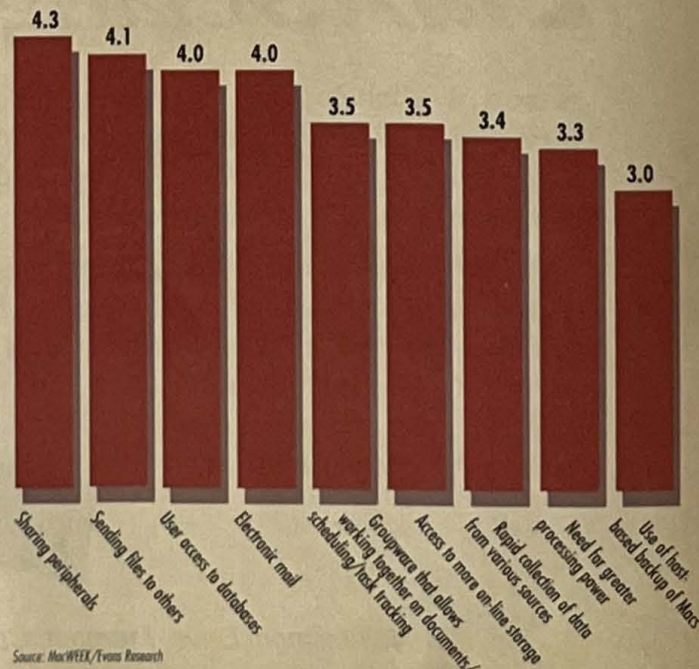
Other benefits, such as collaborative work on documents, scheduling or task tracking, access to more on-line storage, rapid data collection from various locations, more processing power, and

host-based backup were all rated considerably lower.

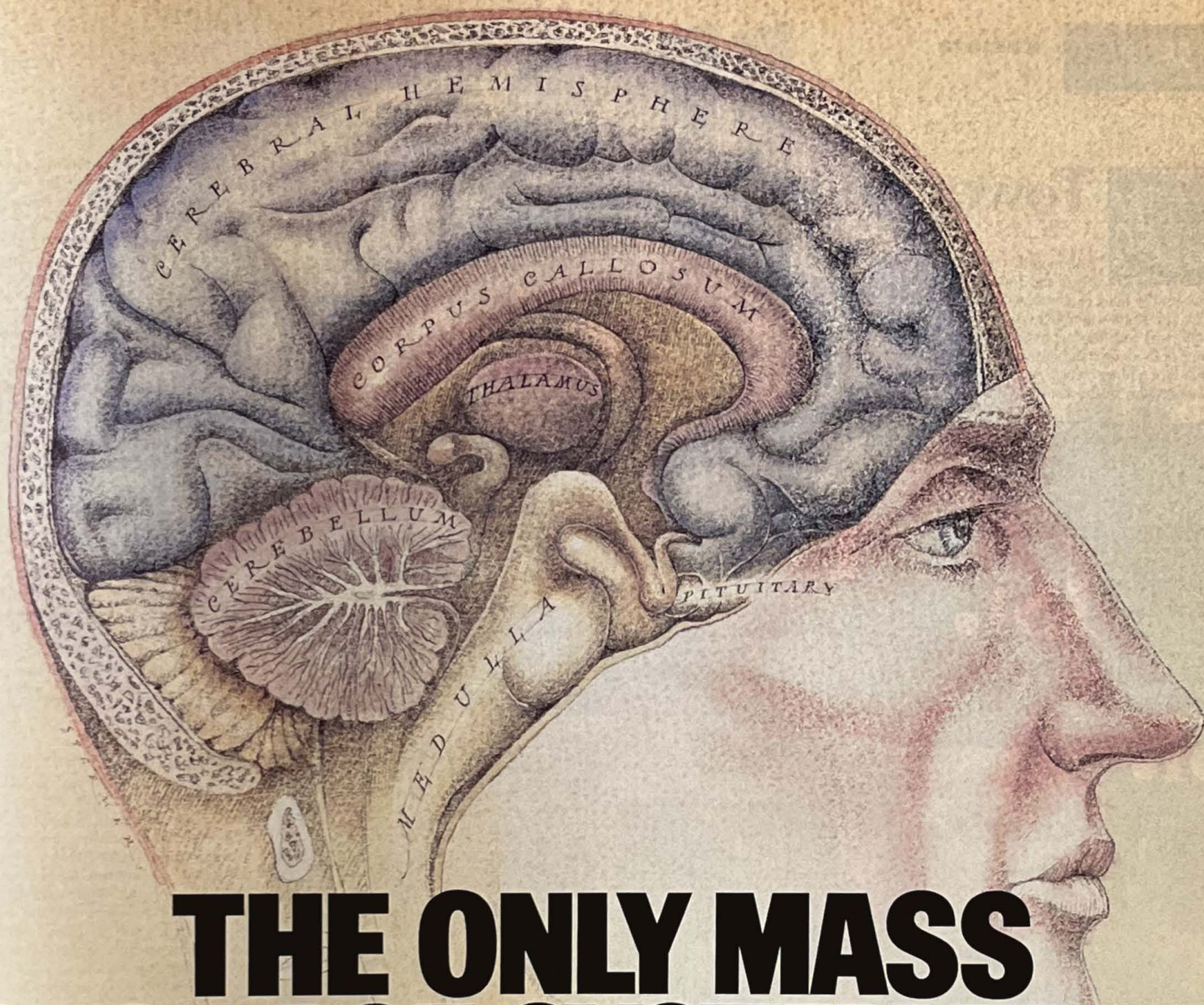
But there were some differences of opinion. Those at sites with 1,000 or more Macs rated ability to send files to fellow workers higher than sharing of peripherals. User access to databases also ranked as high as sharing peripherals. Presumably at these very large sites more people work together on projects, share files and frequently access multi-user databases, making these benefits even more salient than sharing of peripherals. — By Griffin Dix

Importance rating of network benefits

On a scale of 1 to 5:
1 = "Not at all important"
5 = "Extremely important"



Source: MacWEEK/Trans Research



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GCC
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Tower going cold turkey

Although the canceling of the Tower chassis was not the most controversial item of the week, the Knife was able to discover one of the factors contributing to the demise of the short, hefty floor-standing models. The design called for a hinged cover on one side to give access to the motherboard. Unfortun-

nately, the cables that connected the motherboard to internal components such as the drives and the power supply were only long enough to allow the cover to be opened a few inches, the theory being that you first open the cover a few inches and disconnect the cables before opening it up all the way.

The problem, of course, is that if you

forgot the intermediate step and opened the cover in one smooth movement, you usually ripped a component or two from the motherboard.

Cabling was also featured in another Tower design flaw. Apple specifications allow for a maximum cable length of 18 inches between the motherboard and any external

SCSI device. The Tower design used up 14 inches of that cable inside the box. And George Bush thinks *he* has Tower problems.

UniForum produces. The Knife quickly tired of the omnipresent rotating nuts-and-bolts demonstrations at last week's UniForum, but not before he nailed down a couple of Unix-based products that are scheduled (or at least under consideration) for new life on the Mac.

Frame Technology Corp. is expected to announce a Mac version of its FrameMaker page-layout software at Seybold Seminars '89 next week in San Francisco. Observers conversant in such matters say FrameMaker is a popular tool for laying out large, complex documents. It certainly was popular at NeXT, which expended a considerable amount of effort courting Frame Technology prior to the NeXT announcement last October.

Artisan, the high-end, 24-bit color paint program distributed by Perfect Byte Inc., is a candidate for a Mac port, although sources say developer Media Logic Inc. is at least a few tedious committee meetings away from making a decision. If the popular program does make an appearance, it will mean competition for Time Arts Inc.'s Lumina port (announced at January's Macworld Expo for shipment this summer).

Apple's six-pack CD-ROM program has undergone a slight metamorphosis: The promotion now consists of two three-pack bundles. Competition for inclusion in Apple's first retail merchandising promotion in the nearly moribund CD-ROM market is said by outsiders to be intense. In addition to Activision's Manhole and Optical Media International's sound resource disk, the lucky recipients of Apple's nod are likely to include a clip art disc and possibly Xiphias' Time Table of Science and Innovation.

To almost no one's surprise, Microsoft failed to meet its self-imposed end-of-February deadline for releasing Word 4.0.

Although the current Version 2.0 beta looks like a release version, even a March appearance on dealers' shelves is unlikely, considering the time required for duplication, packaging and filling the distribution pipeline.

Ashton-Tate, on the other hand, is very close to finally releasing FullWrite 1.1, a maintenance upgrade that is expected to fix a pesky outlining bug in the current version. At about the same time that Ashton-Tate releases its refurbished word processor, look for a parallel update to Full Impact. Sources deep within the bowels of the new Los Gatos, Calif., Mac division headquarters are particularly excited about the added support for external commands.

Midnight caller. The voice on the other end of the transatlantic phone connection sounded suspiciously like Margaret Thatcher's well-known fashion consultant, but the Knife took notes anyway. Business Software International Ltd. is developing DataClub, a distributed database product that theoretically lets Macs, Unix boxes and DOS machines perform relational database functions on files that do not reside on a server volume. Late last month Business Software executives allegedly met with Apple and Claris officials, who were properly impressed, stating that DataClub is "intuitive to Apple's database plans." The Knife agreed that a relational network product would be a useful upscale addition to Claris' current offerings. □

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